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BRIEF SUMMARY

- Currently the Chairman of Civil Engineering Department, Jordan University of Science and Technology, Irbid, JORDAN.
- Full professor at the Department of Civil Engineering at Jordan University of Science and Technology (JUST).
- Earned a Ph.D. in Civil Engineering from the University of Colorado at Boulder, an M.Sc. and B.Sc. Degrees in Civil Engineering from JUST.
- Served as Vice Dean for Student Affairs & Assistant Dean of the Engineering Faculty at JUST.
- Practical experience in the design and construction of steel structures in Jordan and Malaysia.
- Received an outstanding research paper award in 2008, and several training awards.
- Taught several graduate and undergraduate courses at JUST, Clarkson University, and the University of Colorado at Denver.
- The main research interests are in the field of concrete technology and structural strengthening and repair. The ongoing research program focuses on the use of Jordanian volcanic tuffs for producing sustainable construction materials.
- Published a total of 64 journal papers, conference papers, and technical reports; and received seven funded projects (two of them from US agencies).
- Established collaboration with researchers from JUST, Clarkson University, and the University of Colorado. I am a true believer in collaborative and multidisciplinary research.
- Advised and co-advised 30 graduate (Ph.D. and M.Sc.) and undergraduate students in their research projects, 35% female students.
- Disseminated innovative research results in several prestigious national and international conferences and symposiums.
- Supervised graduation projects for more than 120 undergraduate students.
- Provided services for professional societies and committees, evaluated research proposals, and manuscripts for national, regional, and international journals.
- Provided services at the department, faculty and university levels at JUST and Clarkson.
- Served as chair or committee member of several examining committees for graduate students from JUST, Clarkson University, and the University of Jordan.

EDUCATION

Ph.D. in Civil Engineering, December 2002

The University of Colorado, Boulder, Colorado, USA

Major: Structural Engineering and Structural Mechanics (SESM)

Dissertation: *"The Coupled Effect of Moisture Diffusion, Chloride Penetration, and Freezing-Thawing on Concrete Durability"*

M.Sc. in Civil Engineering, October 1994

Jordan University of Science and Technology, Irbid, Jordan

Major: Structures

Thesis: *"A Finite Element Method for Modeling Edge Effects in Composite Laminates with Different Ply Orientation"*

B.Sc. in Civil Engineering, September 1991

Jordan University of Science and Technology, Irbid, Jordan.

Major: Structures

PROFESSIONAL EXPERIENCE (Academia)

9/2022-present:	Chairman of the Civil Engineering Department, Faculty of Engineering, Jordan University of Science & Technology, Irbid, Jordan.
11/2018-9/2022:	Full Professor, Department of Civil Engineering, Faculty of Engineering, Jordan University of Science & Technology, Irbid, Jordan.
11/2011-11/2018:	Associate Professor, Department of Civil Engineering, Faculty of Engineering, Jordan University of Science & Technology, Irbid, Jordan.
2/2008-11/2011:	Assistant Professor, Department of Civil Engineering, Faculty of Engineering, Jordan University of Science & Technology, Irbid, Jordan.
9/2015-9/2016:	Vice Dean of Student Affairs, Student Affairs Deanship, Jordan University of Science & Technology, Irbid, Jordan.
9/2011-9/2012:	Assistant Dean, Faculty of Engineering, Jordan University of Science & Technology, Irbid, Jordan.
2/2010-9/2010:	Visiting Assistant Professor, Department of Civil Engineering, University of Colorado, Boulder, Colorado, USA.
8/2003-12/2007:	Assistant Professor, Civil, and Environmental Engineering Department, Clarkson University, Potsdam, New York, USA.
1/2003-5/2003:	Adjunct Professor, Department of Civil Engineering, the University of Colorado at Denver, Denver, Colorado, USA.
1/1998-12/2002:	Research Assistant, Department of Civil Engineering, University of Colorado, Boulder, Colorado, USA.
8/1996-6/1997:	Structures & Materials Lab. Supervisor, Dept. of Civil Engineering, Applied Science University, Amman, Jordan.
8/1991-8/1994:	Teaching Assistant, Department of Civil Engineering, Jordan University of

Science and Technology, Irbid, Jordan.

PROFESSIONAL EXPERIENCE (Industry)

6/1997-12/1997: Design and Contracting Engineer, LasMaha Corporation, Kuala-Lumpur, Malaysia.

8/1994-8/1996: Structural Steel Design and Fabrication Engineer, Jordan Metal Works and NegemCo for Engineering and Contracts, Amman, Jordan.

RESEARCH AND TRAINING AWARDS

- Outstanding Research Paper Award, 2008, Emerald LiteratiNetwork, Emerald Group Publishing Limited, for the Paper: "Effect of benzotriazole derivatives on the corrosion of steel in simulated concrete pore solutions", Anti-Corrosion Methods and Materials, Vol. 54, Issue 3.
- Travel Award, ExcEEd Teaching Workshop, United Engineering Foundation, United State Military Academy, West Point, July 2004
- Travel Award, ACBM/PCA Undergraduate Faculty Enhancement Workshop – Teaching the Materials Science, Engineering, and Field Aspects of Concrete, Skokie, Illinois from June 26-29, 2005.
- Modern University Instructional Methods Workshop, Academic Development, and Quality Assurance Center, Jordan University of Science and Technology, Irbid, Jordan, July 7-8, 2009.
- Statistical Analysis of Examinations and Research Data Workshop, Academic Development and Quality Assurance Center, Jordan University of Science and Technology, Irbid, Jordan, October 14-15, 2009.
- The Entrepreneurial University Stakeholder Workshop, British Council, Amman, Jordan, November 16-17, 2015.
- Statistical Data Analysis Workshop, Academic Development, and Quality Assurance Center, Jordan University of Science and Technology, Irbid, Jordan, January 16-17, 2017.
- Teaching Methods and Strategies Workshop, Academic Development and Quality Assurance Center, Jordan University of Science and Technology, Irbid, Jordan, January 22-23, 2017.

TEACHING INTERESTS

Concrete technology, mechanics of materials, advanced structural mechanics, theory of elasticity, structural analysis, structural dynamics, and earthquake engineering, and computational mechanics of solids and structures.

COURSES TAUGHT

Jordan University of Science and Technology (JUST)

Undergraduate Level

CE 202 Strength of Materials
CE 322 Concrete Technology
CE 332 Structural Analysis I
CE 431 Structural Analysis II
CE 591 Graduation Project I
CE 592 Graduation Project II

Graduate Level

CE 732 Structural Dynamics
CE 736 Advanced Structural Mechanics

CE 783 Special Topics in Structural Engineering

CE 902 Theory of Elasticity

Clarkson University, Potsdam, New York, USA

Undergraduate Level

ES 222 Strength of Materials

CE 212 Introduction to Engineering Design

CE 301 Engineering Measurements

CE 495 Concrete Design Competitions

CE 457 Environmental Degradation of Concrete Structures

Graduate Level

CE 557 Environmental Degradation of Concrete Structures

The University of Colorado at Denver, Denver, Colorado, USA

Graduate Level

CE 5514 Matrix Structural Analysis

RESEARCH INTERESTS AND THEIR IMPACTS

My main research interests are in the field of concrete technology and structural strengthening and repair. I focus on the development of models for the coupled transport-degradation behavior of concrete materials. I also focus on upgrading the behavior of structurally deficient members with carbon fiber reinforced polymers (CFRP) composites.

Other research interests include:

- Developing new technologies to control material and structural deteriorations,
- Using byproducts and industrial wastes in concrete, and
- The potential use of Jordanian volcanic tuffs for producing sustainable cementitious materials.

The research activities mentioned above had the following broader impacts:

- Published 37 journal and conference papers and technical reports that provided computational tools for developing construction materials, deterioration prevention measures, and maintenance and repair methods for extending the service life of buildings and infrastructural facilities.
- Published two research articles that provided alternatives to reduce the adverse impacts of the concrete industry on the environment while sustaining the social and economic development.
- Published 22 research articles that promoted collaborative efforts between interdisciplinary groups.
- Attracted seven graduate and undergraduate female students to engineering and technology through experiential learning.
- Produced highly qualified engineers (20 graduate students and more than 100 undergraduate students) who can take advantage of emerging materials and technologies that are environmentally compatible for improving the civil engineering infrastructure at low cost with minimal ecological risk.
- Currently working on research projects that promote the use of Jordanian natural pozzolans that has a great potential for development and investment in the green construction and building materials industry in Jordan.

FUNDED RESEARCH PROJECTS

1. Advanced coating system for transportation infrastructure, ($50,000), New York State Energy Research and Development Authority (NYSERDA), PI: Ayman Ababneh, Co-PIs: Silvana Andreescu, and Muna Ab-Dalo.
2. Tool for analysis of early age transverse cracking of composite bridge decks, ($163,000), New York Department of Transportation (NYSDOT), Co-PI: Ayman Ababneh, PI: Levon Minnetyan, Co-PI: Kerop Janoyan.
3. The combined effect of freezing-thawing cycles and mechanical loading on chloride

penetration into concrete, ($5,000), Deanship of Scientific Research, Jordan University of Science and Technology (JUST).

4. Development of mechanical anchor system to enhance the efficiency of flexural strengthening of reinforced concrete beams using fiber-reinforced polymers, ($8,500), Deanship of Scientific Research, Jordan University of Science and Technology (JUST).
5. Developing coupled transport-degradation models for the durability design of reinforced concrete structures, ($15,000), Deanship of Scientific Research, Jordan University of Science and Technology (JUST).
6. Shear Behavior of Lightweight Concrete Beams Containing Discontinuous Structural Synthetic Fibers, ($8,400), Deanship of Scientific Research, Jordan University of Science and Technology (JUST).
7. Enhancing the Pozzolanicity of Jordanian Volcanic Tuffs using Calcium Carbonate Nanoparticles, ($7,350), Deanship of Scientific Research, Jordan University of Science and Technology (JUST).
8. The integration of model-based simulations and smart sensing technologies for investigating deterioration processes of reinforced concrete structures, ($5,444), Deanship of Scientific Research, Jordan University of Science and Technology (JUST).
9. Treatment of Medical Waste Ash from Heavy Metals and Investigating the Potential Use of Treated Medical Waste Ash as Supplementary Cementing Material, ($9,795), Deanship of Scientific Research, Jordan University of Science and Technology (JUST).
10. Development of Alkali-Activated Cement based on Jordanian Kaolin, ($9,180), Deanship of Scientific Research, Jordan University of Science and Technology (JUST).
11. Assessment of Jordanian Kaolin for Potential Use in Alkali Activated Concrete, ($7,345), Deanship of Scientific Research, Jordan University of Science and Technology (JUST).
12. Control of Shrinkage in Alkali-Activated Kaolin Binder Using Microfibers, ($7,950), Deanship of Scientific Research, Jordan University of Science and Technology (JUST).
13. Repair of Shear-Deficient Reinforced Concrete Beams Damaged by Sulfate Attack using Fiber-Reinforced Polymers, ($7,950), Deanship of Scientific Research, Jordan University of Science and Technology (JUST).

PUBLICATIONS

Refereed Journal Papers (41)

1. Rajai Z. Al-Rousan, **Ayman N. Ababneh**, Mohammad S. Bani Hani (2024). “Effect of different anchorage schemes on the flexural behavior of RC slabs strengthened with CFRP sheets. Construction and Building Materials, 428, **Published online 25 April 2024**, DOI: https://doi.org/10.1016/j.conbuildmat.2024.136348
2. Alnemrawi, B.R., Al-Rousan, R.Z. ,**Ababneh, A.N.** (2024). “The role of CFRP strengthening in improving the punching shear behavior of heat-damaged flat slabs with openings of different sizes and locations.” Engineering Failure Analysis, 160, **Published online 7 March 2024**. DOI: https://doi.org/10.1016/j.engfailanal.2024.108208
3. Alnemrawi, B.R., Al-Rousan, R.Z. & **Ababneh, A.N.** (2023). “The Structural Behavior of Heat-Damaged Flat Slabs with Openings of Different Sizes and Locations.” Arabian Journal of Science and Engineering, 49, 5403–5430, **Published: 03 November 2023**, https://doi.org/10.1007/s13369-023-08411-6
4. **Ababneh, Ayman**, Matalkah, Faris, Aqel, Ruba (2023) “Pre-treatment of volcanic tuff for use in high volume cement replacement.”, Journal of Sustainable Cement-Based Materials, 13(2), 243 – 255, **Published online: 04 Oct 2023**. DOI: https://doi.org/10.1080/21650373.2023.2264284
5. Matalkah F., **Ababneh A.**, Aqel R. (2023). “Synthesis of calcined kaolin-based

geopolymer foam: Assessment of mechanical properties, thermal insulation, and elevated temperature stability.", Ceramics International, 49 (6), 9967 - 9977, **Published online 20 November 2022**, DOI: https://doi.org/10.1016/j.ceramint.2022.11.174

6. Matalkah F., **Ababneh A.**, Aqel R. (2022). "Effects of nanomaterials on mechanical properties, durability characteristics and microstructural features of alkali-activated binders: A comprehensive review." Construction and Building Materials, 336, **Published online 21 April 2022**, DOI: https://doi.org/10.1016/j.conbuildmat.2022.127545
7. **Ababneh, A.**, Matalkah, F., & Matalkeh, B. (2022). "Effects of kaolin characteristics on the mechanical properties of alkali-activated binders.", *Construction and Building Materials*, *318*, 126020. **Published online 10 December 2021** ,DOI: https://doi.org/10.1016/j.conbuildmat.2021.126020
8. Matalkah, F., **Ababneh, A.,** & Aqel, R. (2021). "Effect of fiber type and content on the mechanical properties and shrinkage characteristics of alkali-activated kaolin.", *Structural Concrete*. **Published online 30 June 2021**, DOI: https://doi.org/10.1002/suco.202100061
9. Numayr, K.S., Ababneh, A.N., Almashaqbeh, H.K. (2022). "A Finite Element Method for Modeling Edge Effects in Composite Laminates with Different Ply Orientations." Jordan Journal of Civil Engineering, 2022, 16(4), pp. 549–566, **Published: October 2022**, DOI: https://doi.org/ 10.14525/JJCE.v16i4.39
10. Abureden, G. A., Hasan, W. M., & **Ababneh, A. N.** (2021). "Exploring potential benefits of additive manufacturing in creating corrugated web steel beams.", *Journal of Constructional Steel Research*, *187*, 106975. **Published online 8 October 2021** ,DOI: https://doi.org/10.1016/j.jcsr.2021.106975
11. Rajai Al-Rousan, Ayman Ababneh & Mohammad Alhassan, (2020). Hybrid CFRP-Steel for Enhancing the Flexural Behavior of Reinforced Concrete Beams. *Journal of King Saud University-Engineering Sciences* **Published online 11 June 2020**, DOI: https://doi.org/10.1016/j.jksues.2020.06.004
12. Alhassan, Mohammad, Al-Rousan, Rajai, and **Ababneh, Ayman,** (2021). "Anchoring of the main CFRP sheets with transverse CFRP strips for optimum upgrade of RC Beams: Parametric experimental study." Construction and Building Materials, 293, **Published online 27 March 2021**, DOI: https://doi.org/10.1016/j.conbuildmat.2021.123525
13. Matalkah, Faris, **Ababneh**, **Ayman** and Aqel. Ruba (2021). "Efflorescence Control in Calcined Kaolin-Based Geopolymer Using Silica Fume and OPC." Journal of Materials in Civil Engineering 33(6): 04021119, **Published online 8 May 2021.** DOI: https://doi.org/10.1061/(ASCE)MT.1943-5533.0003764
14. Ababneh, Ayman, Mohammad Alhassan, and Mohammad Abu-Haifa. (2020). "Predicting the contribution of recycled aggregate concrete to the shear capacity of beams without transverse reinforcement using artificial neural networks." Case Studies in Construction Materials 13: e00414, **Published online 9 August 2020**,DOI: https://doi.org/10.1016/j.cscm.2020.e00414
15. H'mida Hamidane, Alaa Chateauneuf, Ali Messabhia, and **Ayman Ababneh**, (2020), Reliability analysis of corrosion initiation in reinforced concrete structures subjected to chlorides in the presence of epistemic uncertainties, *Structural Safety*, Volume 86, **Published online 19 May 2020** ,DOI:https://doi.org/10.1016/j.strusafe.2020.101976.
16. Mohammad A. Alhassan, **Ayman N. Ababneh**, Nour A. Betoush, (2020). Innovative model for accurate prediction of the transfer length of prestressing strands based on artificial neural networks: Case study, Case Studies in Construction Materials, Volume 12. **Published online 15 November 2019**, DOI: https://doi.org/10.1016/j.cscm.2019.e00312.
17. **Ababneh, A.,** Al-Rousan, R., and Ghaith, I. (2020). "Experimental Study on Anchoring of FRP-Strengthened Concrete Beams.", Structures, 23, 26–33. **Published online 13 November 2019**, DOI: https://doi.org/10.1016/j.istruc.2019.09.018
18. Amaireh, L., Al-Rousan, R., **Ababneh, A.**, Alhassan. M. (2020). "Integration of CFRP

Strips as an Internal Shear Reinforcement in Reinforced Concrete Beams.", Structures, 23, 13–19. **Published online 13 November 2019**, DOI: https://doi.org/10.1016/j.istruc.2019.10.009

19. **Ababneh, A**., Messabhia, A., & Xi, Y. (2019). Modeling of chloride penetration in concrete structures under freeze-thaw cycles. *International Journal of Building Pathology and Adaptation*, 38(1), 127-147 **Published on 7 August 2019**. DOI: https://doi.org/10.1108/IJBPA-04-2019-0040
20. Ayman Ababneh, Faris Matalkah, & Ruba Aqel (2020). Synthesis of kaolin-based alkali-activated cement: carbon footprint, cost and energy assessment. *Journal of Materials Research and Technology*, 9(4), 8367-8378. **Published online 11 June 2020**, DOI: https://doi.org/10.1016/j.jmrt.2020.05.116
21. **Ababneh, A.**, Al-Rousan, R., Gharaibeh, W., and Abu-Dalo, M. (2020). "Recycling of pre-treated medical waste fly ash in mortar mixtures.", *Journal of Material Cycles and Waste Management*, 22(1), 207-220, **Published online: 15 October 2019**, DOI: https://doi.org/10.1007/s10163-019-00928-z
22. **Ababneh, A.**, Albiss, B., and Lafee, T., (2019). "Effect of synthesized calcium carbonate nanoparticles on fresh and mechanical properties of high volume natural pozzolan mortars.", *International Review of Civil Engineering (IRECE)*, 10 (2), 85–93, **Published on: March 2019**, DOI: https://doi.org/10.15866/irece.v10i2.15620
23. **Ababneh, A.N.**, Abu-Dalo, M.A., Horn, C., and Hernandez, M.T. (2019). "Polarographic determination of benzotriazoles and their sorption behavior on granular activated carbon.", *International Journal of Environmental Science and Technology*, 16 (2), 833–842, **Published online: 15 May 2018**, DOI: https://doi.org/10.1007/s13762-018-1706-y
24. **Ababneh A**. and Matalkah, F., (2018). "Potential use of Jordanian volcanic tuffs as supplementary cementitious materials." *Case Studies in Construction Materials*, 8, 193-202, **Published online 5 February 2018**, DOI: https://doi.org/10.1016/j.cscm.2018.02.004
25. Alhassan, M., Al-Rousan, R., and **Ababneh, A.,** (2017). "Flexural behavior of lightweight concrete beams encompassing various dosages of macro synthetic fibers and steel ratios.", *Case Studies in Construction Materials,*7, 280-293. DOI: *http://dx.doi.org/10.1016/j.cscm.2017.09.004*
26. **Ababneh, A.,** Al-Rousan, R., Alhassan, M., and Alqadami, M., (2017). "Influence of Synthetic Fibers on the Shear Behavior of Lightweight Concrete Beams.", *Advances in Structural Engineering,* 20(11), 1671 – 1683, DOI: https://doi.org/10.1177/1369433217691773
27. **Ababneh, A.N.**, Al-Rousan, R.Z., Alhassan, M.A., and Sheban, M.A. (2017). "Assessment of shrinkage-induced cracks in restrained and unrestrained cement-based slabs." *Construction and Building Materials*, 371-380, DOI: https://doi.org/10.1016/j.conbuildmat.2016.11.036
28. Homan, L., **Ababneh, A.N.,** and Xi Y., (2016). "The effect of moisture transport on chloride penetration in concrete.", *Construction and Building Materials,* 125, 1189-1195, DOI: https://doi.org/10.1016/j.conbuildmat.2016.08.124
29. Al-Rousan, R., Alhassan, M., and **Ababneh, A.,** (2016). "Simulating the response of CFRP strengthened shear-keys in composite concrete bridges.", *Materials & Design*, 90, 733-744. DOI: http://dx.doi.org/10.1016/j.matdes.2015.11.032
30. Haddad, R. H., Odeh, R.A., Amawi, H.A., **Ababneh, A.N.** (2013). "Thermal performance of self-compacting concrete: a destructive and nondestructive evaluation." *Canadian Journal of Civil Engineering,* 40(12), 1205-1214*,* DOI: https://doi.org/10.1139/cjce-2013-0037
31. Abu-Dalo, M.A., Al-Rawashdeh, N.A., **Ababneh, A.N.** (2013). "Evaluating the performance of sulfonated Kraft lignin agent as corrosion inhibitor for iron-based materials in water distribution systems." *Desalination,* 313, 105-114, DOI: https://doi.org/10.1016/j.desal.2012.12.007

32. **Ababneh, A.N.,** Sheban, M.A., Abu-Dalo, M.A. (2012). "Effectiveness of Benzotriazole as Corrosion Protection Material for Steel Reinforcement in Concrete." *Journal of Materials in Civil Engineering*, ASCE, 24(2), 141-151. DOI: https://doi.org/10.1061/(ASCE)MT.1943-5533.0000374
33. Al-Akhras, N. M., **Ababneh, A.N.**, Al-Qasem, I. A. (2011). "Recycling of waste glass in mortar mixtures," *Journal of Solid Waste Technology and Management*, (37) 3, 157-168. DOI: https://doi.org/10.5276/JSWTM.2011.157
34. **Ababneh, A.,** and Sheban, M. (2011). "Impact of mechanical loading on the corrosion of steel reinforcement in concrete structures." *Materials and Structures*, RILEM, 44(6), 1123-1137. DOI: https://doi.org/10.1617/s11527-010-9688-3
35. Al-Akhras, N. M., **Ababneh, A.,** and Alaraji, W. (2010). "Using burnt stone slurry in mortar mixes.", *Construction and Building Materials*, 24(12), 2658-2663. DOI: https://doi.org/10.1016/j.conbuildmat.2010.04.058
36. **Ababneh, A**., Sheban, M., Abu-Dalo, M., and Andreescu, S. (2009). "Effect of benzotriazole derivatives on steel corrosion in solution simulated carbonated concrete." Jordan Journal of Civil Engineering, Vol. 3, No. 1, 91-102.
37. Sheban, M., **Ababneh, A.,** Abu-Dalo, M., and Andreescu, S. (2007). "Effect of benzotriazole derivatives on corrosion of steel in simulated concrete pore solutions." Anti-Corrosion Methods and Materials, Vol. 54, Issue 3. **(Outstanding Paper Award).** DOI: https://doi.org/10.1108/00035590710748605
38. Suwito, A., **Ababneh, A.**, Xi, Y., and Willam, K. (2006). "The coupling effect of drying shrinkage and moisture diffusion in concrete." *Computers and Concrete*, 3(2), 103-122. DOI: https://doi.org/10.12989/cac.2006.3.2_3.103
39. **Ababneh, A.**, Benboudjema, F., and Xi, Y. (2003). "Chloride penetration in non-saturated concrete." *Journal of Materials in Civil Engineering*, ASCE, 15(2), 183-191. DOI: https://doi.org/10.1061/(ASCE)0899-1561(2003)15:2(183)
40. **Ababneh, A.**, and Xi, Y. (2002). "An experimental study on the effect of chloride penetration on moisture diffusion in concrete." *Materials and Structures*, RILEM, 35(254), 659-664. DOI: https://doi.org/10.1007/BF02480359
41. Kong, J.S., **Ababneh, A.N**, Frangopol, D.M., and Xi, Y. (2002). "Reliability analysis of chloride penetration in saturated concrete." *Probabilistic Engineering Mechanics*, 17(3), 305-315. DOI: https://doi.org/10.1016/S0266-8920(02)00014-0

Refereed Conference Papers (15)

1. Faris Matalkah, Ruba Aqel, and **Ayman Ababneh**, (2020). Enhancement of the Mechanical Properties of Kaolin Geopolymer Using Sodium Hydroxide and Calcium Oxide, Procedia Manufacturing, Volume 44,164-171, https://doi.org/10.1016/j.promfg.2020.02.218.
2. **Ayman Ababneh**, H'mida Hamidane, Yao Wang, Mohamed Abdelrahman, Yunping Xi, (2020). "Assessment of the Coupled Transport-Degradation Model for Concrete using Smart Sensors.", Procedia Manufacturing, Volume 44, Pages 20-27. DOI: https://doi.org/10.1016/j.promfg.2020.02.200.
3. Mohammad A. Alhassan, **Ayman N. Ababneh**, Nour A. Betoush, (2020). "Optimum Prediction of the Transfer Length of Strands Based on Artificial Neural Networks.", Procedia Manufacturing, Volume 44, Pages 505-512. DOI: https://doi.org/10.1016/j.promfg.2020.02.263.
4. **Ababneh, A. N.** (2016). "Coupled transport-degradation behavior of reinforced concrete: state-of-the-art", Proc. of the Fifth International Symposium on Life-Cycle of Engineering Systems: Emphasis on Sustainable Civil Infrastructure, Editors: Jaap Bakker, Dan M. Frangopol and Klaas van Breugel, CRC Press, Taylor and Francis Group, October 16-20, 2016, Delft, The Netherlands, 1038-1045.
5. Haddad, R., **Ababneh, A. N.**, Odeh, R., and Amawi, H., (2011). "Prediction of post-heating damage in self-compacting concrete.", Proc. of the 19th International

Conference on Computer Methods in Mechanics, CMM 2011, May 9-12, 2011, Warsaw, Poland.

6. **Ababneh, A. N.** (2011). "Transverse Cracking of Composite Bridge Decks,", Proc. of the 15th International Conference on Computation Methods and Experimental Measurements, G. M. Carlomagno, and C.A. Brebbia, WITpress, May, 31st – June 2nd, 2011, New Forest, UK, 317-325.
7. **Ababneh, A.**, and Xi, Y. (2006). "Evaluation of Environmental Degradation of Concrete in Cold Regions." Proc., The 13th International Conference on Cold Regions Engineering: *Current Practices in Cold Regions Engineering*, (CD-ROM), ASCE, Orono, Maine.
8. Sheban, M., **Ababneh, A.,** and Fulton, S. (2006). "Numerical Simulation of Moisture Diffusion in Concrete." Proc., *Joint International Conference on Computing and Decision Making in Civil and Building Engineering,* Editors: Hughes Rivard, Edmond Miresco and Hani Melhem, Montreal, Canada, 1015-1024.
9. **Ababneh, A.**, Sheban, M., Suwito, A., and Xi, Y. (2005). "The Coupling Effect of Drying Shrinkage and Moisture Diffusion in Concrete." Proc. Of the *International Conference on creep, shrinkage, and durability of concrete and concrete structures*, Eds. G. Pijaudier-Cabot, B. Gerard and P. Acker, September, 12-14, Nantes, France, 175-180.
10. **Ababneh, A.**, and Xi, Y. (2003) "A New Testing Method for Determining the Coupling Effect of Chloride Diffusion on Moisture Transfer in Concrete", Proc. of Advances in Cement and Concrete IX: Volume Changes, Cracking and Durability, August 10, Copper Mountain, Colorado, 133-140.
11. **Ababneh, A.**, Xi, Y., and Willam, K. (2001). "Multiscale modeling of the coupled moisture diffusion and drying shrinkage of concrete." Proc. of 6th International Conference on Creep, Shrinkage & Durability Mechanics of Concrete and other Quasi-Brittle Materials, Eds. F.-J. Ulm, Z.P. Bazant, and F.H. Wittmann, Aug. 20-22, MIT, Cambridge, USA, pp. 159-164.
12. Xi, Y., Willam, K., Frangopol, D.M., **Ababneh, A.**, Nakhi, A., Kong, J.S., and Nogueira, C.L. (2001) "Accelerated Testing and Modeling of Concrete Durability under Coupled Environmental and Mechanical Loadings", *Long Term Durability of Structural Materials*, Proc. of The NSF Durability Workshop at University of California at Berkeley, Oct., Editors, P.J.M. Monteiro, K.P. Chong, J. Larsen-Basse, and K. Komvopoulos, 45-56.
13. **Ababneh, A.**, Suwito, A., Xi Y. and Abu-Hejleh, N. (2000). "A comparative study on durability of Type IP and Silica Fume concretes." Proc. of the International Symposium on High-Performance Concrete: Workability, Strength and Durability, Editors, Leung, C., Li, Z., and Ding, J.T., December 10-15, Hong Kong & Shenzhen, China, pp. 273-279.
14. Xi, Y., and **Ababneh, A.** (2000). "Prediction of the onset of steel corrosion in concrete by multiscale chloride diffusion." Proc. of the International Symposium on High-Performance Concrete: Workability, Strength and Durability, Editors, Leung, C., Li, Z., and Ding, J.T., December 10-15, Hong Kong & Shenzhen, China, pp. 181-186.
15. Nakhi, A., Xie, Z.H., Asiz, A., **Ababneh, A.**, and Xi. Y. (2000) "Experimental Study on Chloride Penetration under Coupled Hygromechnical Loadings", *Special Publication of ASCE* "Condition Monitoring of Materials and Structures", F. Ansari, Editor, 84-94.

Non-Refereed Proceedings and Technical Reports (8)

1. Xi, Y., and **Ababneh, A.** (2003). "Multiscale modeling of the coupled chemo-thermo-hygro-mechanical deterioration in concrete." Proc. of The First Sino-US Joint Symposium on Multi-Scale Analysis in Material Sciences and Engineering, Beijing, China, June 17-20.
2. Xi, Y., and **Ababneh, A.** (2003). "The Coupling Effects of Environmental and Mechanical Loadings on Durability of Concrete." keynote paper submitted to the International Conference on Advances in Concrete and Structures (ICACS 2003).

3. Xi, Y., Asiz, A., Xie, Z.H., **Ababneh, A.**, and Suwito, A. (2002). "Bridge deck cracking study of Colorado Avenue Viaduct and Monument Creek bridges in Colorado Springs." *Final report CU/SR-XI-2002/002* to the City of Colorado Springs, 74p.
4. Xi, Y., Shing, B., Suwito, A., Xie, Z.H., and **Ababneh, A.** (2002). "Field investigation of cracking in newly constructed bridge decks." *Final report CU/SR-XI-2002/004* to Colorado Department of Transportation, 157p.
5. **Ababneh, A.**, Xi, Y., Frangopol, D.M., and Willam, K. (2001) "The damage of concrete structures due to coupled moisture transfer and drying shrinkage." *Proc. of Structures Congress and Exposition*, ASCE, Ed. P. C. Chang, Washington, D.C., May 21-23, Available on CD-ROM only.
6. Nakhi, A., Xie, Z., Asiz, A., **Ababneh, A.**, and Xi, Y. (2000) "Chloride penetration under coupled hygromechnical loadings." Proc*. of 13th Engineering Mechanics Conference: Engineering Mechanics 2000*, May 21-24, Austin, TX, available on CD.
7. **Ababneh, A.**, Xi, Y., and Willam, K. (2000) "Multi-scale modeling of the interaction between drying shrinkage and moisture diffusion in concrete materials." *Proc. of 13th Engineering Mechanics Conference: Engineering Mechanics 2000,* May 21-24, Austin, TX, available on CD.
8. **Ababneh, A. N.**, and Xi, Y. (1999). "Diffusion of chloride in non-saturated concrete." Proc. of the 5th U.S. National Congress on Computational Mechanics, Boulder, Colorado, Aug. 4-6, pp. 528.

CURRENT RESEARCH ACTIVITIES

Current Graduate Students

1. Enas Marie, M.Sc. Students, Project Title: Destructive and Non-Destructive Evaluation of Light-Weight Fly Ash-Based Geopolymeric Concrete.
2. Reem Bataineh, M.Sc. Students, Project Title: Effect of Elevated Temperature on Lightweight Fly Ash-Based Geopolymer Concrete: Destructive and Non-Destructive Evaluation
3. Majd Kanani, M.Sc. Students, Project Title: Developing High Strength and Lightweight Concrete for Precast Concrete.

COLLABORATIONS (*True believer of collaborative research*)

From Jordan University of Science and Technology

- Prof. Rajai Z. Al-rousan, Department of Civil Engineering, Faculty of Engineering, Jordan University of Science and Technology, Irbid, Jordan.
- Prof. Mohammad A. Alhassan, Department of Civil Engineering, Faculty of Engineering, Jordan University of Science and Technology, Irbid, Jordan.
- Prof. Nabil M. Al-Akhras, Department of Civil Engineering, Faculty of Engineering, Jordan University of Science and Technology, Irbid, Jordan.
- Prof. Rami H. Haddad, Department of Civil Engineering, Faculty of Engineering, Jordan University of Science and Technology, Irbid, Jordan.
- Prof. Yahia A. Qawasmi, Department of Civil Engineering, Faculty of Engineering, Jordan University of Science and Technology, Irbid, Jordan.
- Prof. Muna Abu-Dalo, Chemistry Department, Jordan University of Science and Technology, Irbid, Jordan.

- Prof. Borhan Albiss, Physics Department, Jordan University of Science and Technology, Irbid, Jordan.
- Prof. Nathir Al-Rawashdeh, Chemistry Department, Jordan University of Science and Technology, Irbid, Jordan.

Outside Jordan University of Science and Technology

- Prof. Yunping Xi (Ph.D. Thesis Advisor), Department of Civil Engineering, University of Colorado, Boulder, CO, USA.
- Prof. Silvana Andreescu, Chemistry Department, Clarkson University, Potsdam, New York, USA.
- Prof. Scott Fulton, Clarkson University, Department of Mathematics, Clarkson University, Potsdam, New York, USA.
- Dr. Walid M. Hasan, Department of Civil Engineering, Isra University, Amman, Jordan.
- Dr. Faris Matalkah, Department of Civil Engineering, Hijjawi Faculty for Engineering Technology, Yarmouk University, Irbid, Jordan.

PROFESSIONAL SERVICE

Membership in Professional Societies

- The Jordan Green Building Council
- Jordanian Association of Engineers
- American Society of Civil Engineers, ASCE, (2003-2008)
- American Concrete Institute, ACI, (2003-2008)
- Member of National Association of Corrosion Engineers (NACE) International, (2003-2008)
- American Society of Engineering Education, ASEE, (2003-2008)
- Transportation Infrastructure Research Consortium (TIRC), Cornell University, Ithaca, NY, (2003-2008)

Professional Committees

- ACI Committee 201 Durability of Concrete, (2003-2008)
- ACI Committee 209 Creep and Shrinkage, (2003-2008)
- ACI Committee 222 Corrosion of Metals in Concrete, (2003-2008)
- RILEM Technical Committee FLM - Modeling of life time of concrete under different types of frost and de-icing salt attack, (2003-2008)

Editorial Board Member of the Jordan Journal of Civil Engineering

Evaluation of Research Proposals

The Scientific Research Support Fund (SRSF), Amman, Jordan

Evaluation of Graduate Programs

External Academic Reviewer for the Master of Science in Civil Engineering program at the Department of Civil and Environmental Engineering at King Faisal University in Kingdom of Saudi Arabia (KSA).

Evaluation of Manuscripts for Journal

- Construction and Building Materials, CBM
- Advances in Structural Engineering, ASE

- Jordan Journal of Civil Engineering, JJCE
- Yanbu Journal of Engineering and Sciences, YJES
- Journal of Materials in Civil Engineering, ASCE
- Journal of Engineering Mechanics, ASCE
- American Concrete Institute Materials Journal, ACI
- Material and Structures Journal, RILEM

Invited and Conference Presentations

1. 1st International Conference on Optimization-Driven Architectural Design (OPTARCH2019), Amman, Jordan, Novemeber 5-7th, 2019, “Integrating Model-Based Simulations and Smart Sensing for the Coupled Transport-Degradation Behavior of Reinforced Concrete Structures.”
2. The Applied Nanotechnology and Nanoscience International Conference (ANNIC 2017), Rome, Italy, October 18-20, 2017, “Enhancing the Pozzolanicity of Jordanian Volcanic Tuffs using Calcium Carbonate Nanoparticles.”
3. The Fifth International Symposium on Life -Cycle Civil Engineering, IALCCE2016, Delft, The Netherlands, October 16-19, 2016, “ Coupled transport-degradation behavior of reinforced concrete: state-of-the-art.”
4. The 8th International Symposium on Cement Based Materials for a Sustainable Agriculture (CSA 2015), Iasi, Romania, October 22-25, 2015, “Effect of Jordanian Pozzolans on the Fresh and Hardened Properties and Durability of Cement Mortars.”
5. The XVIII International Conference on Mechanics of Composite Material (MCM-2014), Riga, Latvia, June 2-6, 2014, “Development of Mechanical Anchor System to Enhance the Efficiency of Flexural Strengthening of Reinforced Concrete Beams using Fiber Reinforced Polymers.”
6. The 15th International Conference on Computation Methods and Experimental Measurements, New Forest, UK, May, 31st – June 2nd, 2011, "Transverse Cracking of Composite Bridge Decks.”
7. The 13th International Conference on Cold Regions Engineering, Orono, Maine, July 23-27, 2006, “Evaluation of Environmental Degradation of Concrete in Cold Regions.”
8. The Joint International Conference on Computing and Decision Making in Civil and Building Engineering, Montreal, Canada, June 14-26, 2006, “Numerical Simulation of Moisture Diffusion in Concrete.”
9. The International conference on creep, shrinkage, and durability of concrete and concrete structures, Nantes, France, September 2005, “The Coupling Effect of Drying Shrinkage and Moisture Diffusion in Concrete.”.
10. The 8th Annual Symposium of Undergraduate Research Experiences (SURE), Clarkson University, August 3, 2006. “The Effectiveness of BTA as Corrosion Protection Material for Steel Reinforcement in Concrete,” (*Presented by Koami Semanyo, McNair Program Student*)
11. The 5th Annual Symposium of Undergraduate Research Experiences (SURE), Clarkson University, April 23, 2004. “Determination of Responsibility for Repairing Cracks in Concrete Structures,” (*Presented by Beth Davis, Honor Thesis Student*)
12. The 6th International Conference on Creep, Shrinkage & Durability Mechanics of Concrete and other Quasi-Brittle Materials, MIT, Cambridge, USA, Aug. 20-22 2001, “Multiscale modeling of the coupled moisture diffusion and drying shrinkage of concrete.”
13. The 5th U.S. National Congress on Computational Mechanics, Boulder, Colorado, Aug. 4-6, 1999, “Diffusion of chloride in non-saturated concrete.”

STUDENT ADVISEMENT

Jordan University of Science and Technology (JUST)

M.Sc. Students Advised: (Main Advisor: Dr. Ayman Ababneh)

1. Mohammad Al Akhras, M.Sc. Student, “The Use of Graphene Nanoplatelets for Enahancement of the Early Strength of Mortar containing High-Levels of Natural Pozzolan”. He graduated in April, 2024.
2. Abdelrahman Al-shouha, M.Sc. Student, “Effects of Nano-Silica and Curing Temperature on Corrosion Resistance of Kaolin-Based Geopolymer Concrete”. He graduated in March, 2024.
3. Mohammad Bani Hani, M.Sc. Student, “Strengthening and Anchoring of Reinforced Concrete Slabs Using Carbon Fiber Reinforced Polymer Sheets with Different Anchorage Systems”. He graduated in January, 2023.
4. Baha Al-Deen Al-omoush, M.Sc. Students, “Rehabilitation of Shear-Deficient Reinforced Concrete Beams Damaged by Sulfate Attack using Fiber Reinforced Polymers”. He graduated in January, 2023.
5. Mohammed Alkhateeb, M.Sc. Student, “Strengthening of Sulfate-Damaged Reinforced Concrete Beams with Carbon Fiber Reinforced Polymer Sheets”. He graduated in January, 2023.
6. Bisher Matalkah, “Assessment of Jordanian Kaolin for Potential Use in Alkali Activated Concrete. He graduated in August, 2020.
7. ***Mr. Bisher is currently a lecturer in the Al- Balqa' Applied University, Hosun, Jordan.***
8. Saleh Alshorman, “Chloride Penetration in Heat-Damaged Concrete”. He graduated in January, 2020.
9. ***Mr. Saleh is currently a practicing engineer at The Ministry of Agriculture, Amman, Jordan.***
10. Ruba Aqel, “Development of alkali-activated cement based on Jordanian kaolin.”, Co-Advisor: Dr. Faris Matalkah. She graduated in July 2019.
11. ***Miss Ruba is a postgraduate researcher at Jordan University of Science and Technology.***
12. Mohammad Abu Haifa, “Modification of the shear capacity equations for beams cast with recycled aggregate concrete." Co-advisor: Dr. Mohammad Alhassan. He graduated in July 2019.
13. ***Mr.*** Mohammad ***is currently a Ph.D. student and RA in the Civil and Environmental Engineering Department at Florida International University, Miami, FL, USA.***
14. Wafaa Gharaibeh, “Effect of Treated Medical Waste Ash on The Mechanical Properties of Mortar”. Co-advisors: Prof. Rajai Al-Rousan and Prof. Muna Abu-Dalo. She graduated in March 2019.
15. Esra’s Hussein Aldiab, “Early Strength Development in Cement Mortars Containing High Volume of Jordanian Natural Pozzolan”, Co-advisor: Prof. Yahia Qawasmi. *She graduated in*

August 2017.

16. Tasnim Shukry Lafee, “Enhancing the Pozzolanicity of Jordanian Volcanic Tuffs using Calcium Carbonate Nanoparticles”, Co-advisor: Prof. Borhan Aldeen Albiss*. She graduated in August 2017.*

    - ***Miss Tasnim is currently a lecturer in the Al Zaytoonah University of Jordan.***

17. Mohammed Ali Mahdi Al-Qadami, “Shear Behavior of Lightweight Concrete Beams Containing Discontinuous Structural Synthetic Fibers”. Co-advisors: Dr. Rajai Al-Rousan and Dr. Mohammad Alhassan. *He graduated in May 2016.*

18. Ali Mohammad Ali Shehadeh, “Developing Coupled Transport-Degradation Models for the Durability Design of Reinforced Concrete Structures”, Co-advisor: Prof. Rami Haddad*. He graduated in December 2013.*

    - ***Dr. Ali Shehadeh completed his Ph.D. from University of Central Florida and currently, he is an Assistant Professor in the Civil Engineering Department in Hijjawi College of Engineering Technology at Yarmouk University, Irbid, Jordan.***

19. Faris Abed Alkareem Matalkah, “Assessment of Pozzolans from Jordanian Badia for Potential Use in Producing Green Construction Materials”. He *graduated in January 2013.*

    - ***Dr. Faris Matalkah completed his Ph.D. from Michigan State University and currently, he is an Assistant Professor in the Civil Engineering Department in Hijjawi College of Engineering Technology at Yarmouk University, Irbid, Jordan.***

20. Issam Mohammed Naief Ghaith, “Development of Mechanical Anchor System to Enhance the Efficiency of Flexural Strengthening of Reinforced Concrete Beams using Fiber Reinforced Polymers”, Co-advisor: Dr. Rajai Al-Rousan*. He graduated in April 2012.*

21. Loai Al-Tarabulsi, “The Combined Effect of Freezing-Thawing Cycles and Mechanical Loading on Chloride Penetration into Concrete”, Co-advisor: Prof. Rami Haddad*. He graduated in April 2012.*

    - ***Mr. Loai Al-Tarabulsi is currently working as Full Time Lecturer in the Civil Engineering Department at Al-Hussein Bin Talal University, Ma’an, Jordan.***

22. H'mida Hamidane, "Modeling of Chloride Penetration in Concrete Structures in Cold Regions". *He graduated in January 2010.*

    - ***Prof. H'mida works as an Assistant Professor class B in the Department of Civil Engineering, University of Tebessa, Tebessa, Algeria)***

23. Khalil Ibrahim Abdulhadi, "The Effect of Freezing-Thawing on Chloride Penetration into Concrete", Co-advisor: Prof. Rami Haddad. *He graduated in May 2009.*

    - ***Mr. Khalil currently works as Project Manager in Khairat Al-Jazeera Contracting Company, Baghdad, Iraq)***

Ph.D. and M.Sc. Students Co-advised: (Co-Advisor: Dr. Ayman Ababneh)

1. Bara'a Alnemrawi, Ph.D. Student, “Punching shear behavior of strengthened heat-damaged flat slabs with different opening sizes and location”. She graduated in January 2023.
2. Nour Betoush, M.Sc. Student, Project title: The use of artificial networks in the prediction of the transfer length of prestressing strands in prestressed concrete beams. *She graduated in July 2019.*

    - ***Miss Noor is currently a Ph.D. student in the Department Civil Engineering at Jordan University of Science and Technology, Irbid, Jordan.***

3. Hala Ahmed Abed Amawi, “Non-Destructive Evaluation of Fire Damage in Self Compacting Concrete’, Main Advisor: Prof. Rami Haddad. *She graduated in December 2010.*
4. Ruba Ahmed Morshed Odeh, "Thermal Performance of Self-Compacting Concrete: Effect of

Relative Humidity". Main Advisor: Prof. Rami Haddad. *She graduated in December 2010.*

- ***Miss Ruba is a Lecturer in the Department of Civil Engineering in the Faculty of Engineering in The Hashemite University, Zarqa, Jordan.***

5. Hasan Mahdi Malallah, "The Effect of Fibers on Freeze-Thaw Durability and Chloride Penetration into Concrete". Main Advisor: Prof. Rami Haddad. He *graduated in July 2010.*
6. Wael Asim Mohammad Hussain, "The Effect of Jordanian Cutting Stone & Tile Wastes on The Mechanical Properties of Concrete". Main Advisor: Dr. Nabil Al-khras. He *graduated in August 2009.*

   - ***Mr. Wael is currently a Ph.D. candidate in the Department of Structure and Materials at the University Technology, Johor Bahru, Malaysia***

7. Mohammad Naser Tahat, "Repair of Sulfate Damaged Reinforced Concrete Beams using Advanced Composite Materials". Main Advisor: Prof. Rami Haddad. *He graduated in August 2009.*
8. Imad Adel Al Qasem, "Effect of Glass Power on The Mechanical Properties of Mortar". Main Advisor: Dr. Nabil Al-khras. *He graduated in July 2009.*

   - ***Mr. Imad is a Lecturer in the Civil Engineering Department at An-Najah National University, Nablus, Palestine)***

Clarkson University, Potsdam, New York, USA

Graduate

- Mashal Sheban, Ph.D. Student, he graduated in 2007.
- ***Dr. Mashal Sheban is the Chairman of Civil Engineering Department in Hadhramout University, Tarīm, Yemen.***
- Yang Liu, M.Sc., graduated 2007

Undergraduate

- Beth Davis, Honor Program Student, 2004-2005, awarded 2005
- Koami Semanyo, McNair Program Student, summer 2006
- Jessica Rochealu, Honor Program Student, 2006-2008

GRADUATE STUDENTS COMMITTEE MEMBERSHIP

At Jordan University of Science and Technology

1. Rami Khalil Al-Sughayer, M.Sc. Thesis, "Strength Optimization and Microstructure Investigation of Geopolymer Concrete Made of Natural Jordanian Pozzolan", Civil Engineering Department, Faculty of Engineering, Jordan University of Science and Technology. December 2016.
2. Mahmoud Abdullah Abdul Wahab, M.Sc. Thesis, "An Anchorage System of Fiber Reinforced Polymer (FRP) Strengthened Cantilever Beams", Civil Engineering Department, Faculty of Engineering, Jordan University of Science and Technology. November 2015.
3. Harith Amir Al-Salman, M.Sc. Thesis, "Experimental Investigation of the Impact Resistance and Behavior of Polypropylene Fiber Reinforced Slabs", Civil Engineering Department, Faculty of Engineering, Jordan University of Science and Technology. July 2015.
4. Ala'a Tareq Talleh, M.Sc. Thesis, "Modeling and Optimization for Compressive and Tensile Strength of Concrete Mixtures containing Carbon Nanotubes and Nanoclays using Neural Networks and Genetic Algorithm Techniques", Civil Engineering Department, Faculty of Engineering, Jordan University of Science and Technology. July 2014.
5. Safa Suliman Mohammad Al Olimat, M.Sc. Thesis, "Contact Stresses Produced by the Dynamic

Loading", Civil Engineering Department, Faculty of Engineering, Jordan University of Science and Technology. December 2011.

6. Ayat Mahmoud Al-Henawi, M.Sc. Thesis, "Modeling Chloride Instruction into Self-Compacting Heat-Damaged Concrete", Civil Engineering Department, Faculty of Engineering, Jordan University of Science and Technology. July 2011.
7. Khawla Alazwar Al-Sa'adi, M.Sc. Thesis, "Effect of Sulfates on Bond Behavior between Carbon Fiber Reinforced Polymer Sheets and Concrete", Civil Engineering Department, Faculty of Engineering, Jordan University of Science and Technology. April 2011.
8. Nadmi Mohammad Hatem Al-Mekhalfy, M.Sc. Thesis, "Repair of Heat-Damaged One-Way Reinforced Concrete Slabs using Fibrous Composite Materials", Civil Engineering Department, Faculty of Engineering, Jordan University of Science and Technology. December 2008.

Outside Jordan University of Science and Technology

1. Maram Al-Kisswani, M.Sc. Thesis, "Analysis of Reinforced Concrete Beam-Column Joint Subjected to Cyclic Load Using Finite Element Analysis and Deep Learning", Department of Civil Engineering, Isra University, January 2021.
2. Mohammed Rayyan, M.Sc. Thesis, " Seismic Design Using Displacement-Based Method for Steel Irregular Moment-Resisting Frame with Presence of Vertical Mass Irregularity", Civil Engineering Department, School of Engineering, The University of Jordan. August 2020.
3. Ghaith Atef Abureden, M.Sc. Thesis, "The Use of Binding Jetting Additive Manufacturing in Creating Corrugated Web Beams and Truss Beams for Lightweight Steel Framing Systems", Department of Civil Engineering, Isra University, May 2020.
4. Samer Fouad Tubishat, M.Sc. Thesis, "Evaluation of Fundamental Natural Period for Steel Moment Resisting Frame Structures", Civil Engineering Department, School of Engineering, The University of Jordan. April 2016.
5. Hanan Hatem Asa'ad, M.Sc. Thesis, "Evaluation of the Fundamental Periods of Vibrations for Dual Reinforced Concrete Systems Structures", Civil Engineering Department, School of Engineering, The University of Jordan. April 2016.
6. Saja Mokhles Al Smadi, M.Sc. Thesis, "Evaluation of the Fundamental Periods of Vibration for Reinforced Concrete Concentric Braced Frame Structures", Civil Engineering Department, School of Engineering, The University of Jordan. December 2016.
7. Fatema Mustafa Frehat, M.Sc. Thesis, "Torsion of Reinforced Concrete Beam-Double Tube Approach", Civil Engineering Department, School of Engineering, The University of Jordan. December 2016.

UNIVERSITY, FACULTY AND DEPARTMENT SERVICES

At Jordan University of Science and Technology, Irbid, Jordan (2008-present)

- Structural Division Coordinator, Civil Engineering Department, Jordan University of Science and Technology, 2020-2021.
- Chaired a special committee charged with evaluating the promotion cases for Dr. Yousef Alrjoob for the promotion from the rank of Associate Professor to the rank of Full Professor at the Civil Engineering Department at Jordan University of Science and Technology.
- Served as committee member charged with evaluating the promotion cases for Dr. Nabil Al-Akhras for the promotion from the rank of Associate Professor to the rank of Full Professor at the Civil Engineering Department at Jordan University of Science and Technology.

- The representative of the Civil Engineering Department in the Faculty of Engineering Council, 2019-2020.
- Member of the Local Scientific Committee for the 1st International Conference on Optimization-Driven Architectural Design, which was held at Amman-Jordan on November 5-7th, 2019.
- Member of the Local Scientific Committee and the Local Organizing Committee for the 14th Arab Structural Engineering Conference (ASEC), which was held on April 12-16th, 2018 at Jordan University of Science and Technology, Irbid, Jordan.
- Acted as a member of the central academic quality committee at the University level, 2015-2016.
- Acted as a member of the supreme committee to supervise the elections of the Union of University Students at its 24th session of the academic year 2015/2016.
- Associated in the preparation of the strategic plan for the Student Affairs Deanship, 2015-2016.
- Chaired the University Job Fair Committee responsible for organizing the 12th Job Fair at Jordan University of Science and Technology.
- Acted as a member of the ABET Committee for the Civil Engineering Program that managed to achieve ABET accreditation to the department from 2014 to 2022.
- Acted as a member of the committee that prepared the study plan for the doctoral program in Civil Engineering at Jordan University of Science and Technology (JUST).
- Chaired the committee responsible for studying the offers for the Tender No. (44/2011) for the purchase of equipment for the Civil Engineering Department.
- Chaired three special committees charged with evaluating the promotion cases for Dr. Amin Almasri, Dr. Yousef Alrjoob, and Dr. Mohammed Irshidat for the promotion from the rank of Assistant Professor to the rank of Associate Professor at the Civil Engineering Department at Jordan University of Science and Technology.
- Served in the following committees in the Civil Engineering Department at Jordan University of Science and Technology.
    - Member of the scientific research committee
    - Member of the laboratory and tender committee
    - Member of the seminars and community service committee
    - Chair of the social committee

At Clarkson University, Potsdam, NY, USA (2003-2007)

- Faculty advisor of the ASCE Concrete Canoe team, one of the SPEED Teams at Clarkson University “Students Projects for Engineering Experience and Design” 2003-2007.
- Instructor for two Hands-On courses, Introduction to Engineering Design and Engineering Measurements
- Member of the Center for the Environment and Center for Advanced Materials Processing (CAMP)

GRADUATION PROJECTS ADVISEMENT

Supervised several Civil Engineering graduation projects (over 100). These projects include:

- Design of multistory buildings.
- Design of pre-stressed bridges.
- Design of water tanks.
- Design of steel structures.

- Design of concrete mixes for different applications.
- Use of commercial software such as ETABS, SAFE, STADD, PROKON in the design.