

Prof. Mohammad Alhassan
Professor of Civil Engineering/Structures & Concrete
mohammad.alhassan@aau.ac.ae; maalhassan@just.edu.jo
Cell Phone: +971508752400; +962789183636



Education

- Ph.D. in Civil Engineering, University of Illinois at Chicago (UIC), spring 2007.
Thesis Title: “*Performance-Based Aspects and Structural behavior of High Performance Fibrous Bonded Concrete Overlays*”
- M.S. in Structural Engineering, Jordan University of Science & Technology, spring 2003.
Thesis Title: “*Upgrading the Structural Seismic Behavior of GLD Frames with HPFRC Jackets*”
- B.S. in Structural Engineering, Jordan University of Science & Technology, spring 2000.

Professional Experience

- Professor: Civil Engineering Program, Al Ain University (AAU), 2023 – 2024
- Professor and Program Director: Civil Engineering Program, Al Ain University (AAU), 2019 – 2023
- Professor: Department of Civil Engineering, JUST, 2019 – present (on leave)
- Associate Professor: Department of Civil Engineering, JUST, 2014-2015 & 2016 – 2019
- Associate Professor: Department of Engineering, Purdue University Fort Wayne, 2012-2016
- Assistant Professor: Department of Engineering, Purdue University Fort Wayne, 2008-2012
- Structural Engineer: ABKJ Consulting Engineering, Seattle, WA, 7/2007-12/2007
- Research Specialist: Department of Civil & Materials Eng., UIC, 6/2007-7/2007
- Teaching Assistant: Department of Civil & Materials Eng., UIC, 1/2004-5/2007
- Structural Engineer: Irbid Greater Municipality, Jordan, 4/2001-12/2003
- Engineering Trainee: Ministry of Public Work, Jordan, 03/2000-03/2001

Honors, Awards, Recognition

- IPFW Student’s Choice Outstanding Teacher Award, 2012
- IPFW ETCS Excellence in Teaching Award, 2011-2012
- IPFW ETCS Excellence in Research Award, 2010-2011
- Voting Member of the ACI Committee 548, since 2010
- Co-Chair of the ADDOPTML2024 Conference, 2024
- Keynote Speaker, Joint Event of Collocated Conferences; icTIC 2012
- Senate member of the IPFW Senate (2011-2013)
- Chair of the ETCS-IPFW Faculty Affairs Committee (2009-2011)
- Member of the Editorial Advisory Board of Multiple Journals
- Arab American Association of Engineering and Architects (AAAEA) Scholarship, 2005
- Graduated with Summa Cum Laude (GPA 4.0/4.0) in my Ph.D. Study
- Graduated with Excellent GPA in my M.S. study & Ranked 7th among 148 students in my B.S. study

Research Interests

- Analysis, design, testing, and simulation of structures
- Fiber reinforced concrete
- Repair of structural members with CFRP composites
- Seismic behavior of beam-column connections
- Structural health monitoring and smart structures
- Applications of Artificial Neural Networks in Structural Engineering

Journal Papers

1. Alhassan, M, Alkhawaldeh A, Betoush, N, Sawalha, A, Onaizi, A, and Amaireh L, "Harmonizing Smart Technologies with Building Resilience and Sustainable Built Environment Systems," Results in Engineering, Accepted, 2024.
2. Alquraan, M., Alhassan, M. and AlEassa, M., "Measurement Invariance Analysis of Engineering and Mathematics Majors Students' Understanding of Mathematics Courses Teaching Practices," European Journal of STEM Education, 9(1), p.04, 2024.
3. Ali Onaizi, Waiching Tang, Mugahed Amran, Yanju Liu, Umer Sajjad, Mohammad Alhassan "Towards increased adoption of furnace bottom ash as sustainable building materials: Characterization, standardization, and applications," Journal of Building Engineering, Vol. 82, 108274, 2024.
4. Alhassan, M., Obeidat, Y., and Al-Ananzeh, R., "ANN-Based Critical Review of the Effective Moment of Inertia of RC Beams," Emergent Materials, 2023, 6, 1071–1080.
5. Alhassan M, Alkhawaldeh A, Betoush N, Alkhawaldeh M, Huseien GF, Amaireh L, and Elrefae A., "Life Cycle Assessment of the Sustainability of Alkali-Activated Binders," Biomimetics, 2023; 8(1):58.
6. Al-Rousan R, Nusier O, Abdalla K, Alhassan M, Vougioukas EA, Stamos AA, and Lagaros ND, "Cyclic Behavior of FRP Strengthened Beam-Column Joints under Various Concrete Damage Levels," Construction Materials, 2023; 3(1):38-61.
7. Onaizi AM, Huseien GF, Shukor Lim NHA, Tang WC, Alhassan M, and Samadi M, "Effective Microorganisms and Glass Nanopowders from Waste Bottle Inclusion on Early Strength and Microstructure Properties of High-Volume Fly-Ash-Based Concrete," Biomimetics, 2022; 7(4):190.
8. Mohammad Alhassan, Nour Betoush, Nasser Al-Huthaifi, and Abeer Al Dalou, "Estimation of the fracture parameters of macro fiber-reinforced concrete based on nonlinear elastic fracture mechanics simulations," Results in Engineering, Vol. 15, 100539, 2022.
9. Suhil Kiwan, Mohammad Alhassan, and Bara Hamad, "Development of a Simple Sustainable Camping Shelter for Addressing the Needs of Refugees in Jordan," Results in Engineering, Vol. 14, 100404, 2022.
10. Rajai Al-Rousan, Osama Nusier, Khairedin Abdalla, Mohammad Alhassan, and Nikos Lagaros "NLFEA of Sulfate-Damaged Circular CFT Steel Columns Confined with CFRP Composites and Subjected to Axial and Cyclic Lateral Loads," Buildings, Vol. 12, No. 3, 296, March 2022.
11. Alhassan, M, Al-Rousan, R, Alomari, I, & Amaireh, L, "Shear response of RC beams encompassing hybrid CFRP strips and steel stirrups: Beam depth effect," Structures, Vol. 38, pp. 781-796, 2022.
12. Mohammad Alhassan, Rajai Al-Rousan, and Ayman Ababneh, "Anchoring of the main CFRP sheets with transverse CFRP strips for optimum upgrade of RC Beams: Parametric experimental study," Construction and Building Materials, Volume 293, 26 July 2021, e123525.
13. Mohammad Alhassan, Rajai Al-Rousan, and Moheldeen Hejazi, "Concerning the Tensor-Based Flexural Formulation: Applications," Structural Engineering and Mechanics, Vol. 77, No. 6, pp. 765-777, 2021.
14. Al-Rousan, R, Alhassan, M, & Al-Omary, R, "Response of interior beam-column connections integrated with various schemes of CFRP composites," Case Studies in Construction Materials, 14, e00488, 2021.
15. Mohammad Alhassan, Rajai Z. Al-Rousan, Moheldeen A. Hejazi, and Layla Amaireh, "Approximate Analysis of Quadrilateral Slabs Having Various Cases of Boundary Conditions and Aspect Ratios," Advances in Structural Engineering, SAGE, January 7, 2021.
16. Mohammad Alhassan, Khairedin M. Abdalla, and Mohammed Al-Shatnawi, "Critical Evaluation of the Shear Lag Factor Provisions for W-Sections," Frontiers in Built Environment, Computational Methods in Structural Engineering, Vol. 6, 2020.
17. Ayman Ababneh, Mohammad Alhassan, and Mohammed Abu Haifa, "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, Vol. 13, e00414, 2020.
18. Rajai Z. Al-Rousan, Mohammad A. Alhassan, and Razan Al-wadi, "Nonlinear finite element analysis of full-scale concrete bridge deck slabs reinforced with FRP bars," Structures, Vol. 27, 2020, pp. 1820-1831.

19. Rajai Z. Al-Rousan, Mohammad A. Alhassan, and Moheldeen A. Hejazi, "The extrema point deviatoric moment component," *Ain Shams Engineering Journal*, 12(1), pp. 341-354, 2021.
20. AL-Rousan, R, Ababneh, A, & Alhassan, M "Hybrid CFRP-steel for enhancing the flexural behavior of reinforced concrete beams," *Journal of King Saud University – Engr. Sciences*, 33(7), pp. 459-470, 2021.
21. Mohammad A. Alhassan, Rajai Z. Al-Rousan, and Ahmad M. Abu-Elhija, "Anchoring holes configured to enhance the bond-slip behavior between CFRP composites and concrete," *Construction and Building Materials*, Volume 250, 30 July 2020, 118905.
22. Alhassan, M, Al-Rousan, R, & Taha, H, "Precise finite element modelling of the bond-slip contact behavior between CFRP composites and concrete," *Construction & Building Materials*, 240, 117943, 2020.
23. Alhassan MA, Ababneh AN, Betoush NA, "Innovative Model for Accurate Prediction of the Transfer Length of Prestressing Strands Based on Artificial Neural Networks: Case Study," *Case Studies in Construction Materials*, Vol. 12, June 2020, e00312.
24. Amaireh, L, Al-Rousan, R, Ababneh, A, & Alhassan, M, "Integration of CFRP Strips as an Internal Shear Reinforcement in Reinforced Concrete Beams," *Structures*, Vol. 23, February 2020, pp. 13-19.
25. Mohammad Alhassan, Ayman Ababneh, and Nour Betoush, "Optimum Prediction of the Transfer Length of Strands Based on Artificial Neural Networks," *Procedia Manufacturing*, Vol. 44, 2020, pp. 505-512.
26. Alhassan, M, Al-Rousan, R, & Al-Khasawneh, S, "Control of Vibrations of Common Pedestrian Bridges in Jordan with Tuned Mass Dampers," *Procedia Manufacturing*, Vol. 44, 2020, pp. 36-43.
27. Rajai Al-Rousan, Mohammad Alhassan, and Moheldeen Hejazi, "Concerning the Tensor-Based Flexural Formulation: Theory," *Structural Engineering and Mechanics*, Vol. 70, No. 4, 2019, pp. 445-455.
28. Khairedin M. Abdalla, Rajai Z. Al-Rousan, Mohammad Alhassan, and Nikos Lagaros "Finite Element Modelling of Concrete Filled Steel Tube Columns Wrapped with CFRP," *Proceedings of the Institution of Civil Engineers-Structures and Buildings*, Je 2019.
29. Mohammad A. Alhassan, Rajai Z. Al-Rousan, and Esmail A. Alshuqari, "Bond-slip behavior between fiber reinforced concrete and CFRP composites," *Ain Shams Engineering Journal*, March 2019.
30. Khairedin M. Abdalla, Rajai Z. Al-Rousan, Mohammad A. Alhassan, and Nikos Lagaros, "Modeling and Analysis of Optimized Rectangular RC Columns Confined with CFRP Composites," *Jordan Journal of Civil Engineering (JJCE)*, Vol. 13, No. 2, April 2019, pp. 325-334.
31. Mohammad A. Alhassan, Rajai Z. Al-Rousan, and Moheldeen A. Hejazi, "Novel Nonlinear Model for Analysis of RC Slabs with Various Boundary Conditions under Monotonic Loading," *International Review of Civil Engineering (I.R.E.C.E.)*, Vol. 9, No. 6, December 2018.
32. Al-Rousan, A, Alhassan, M, & Hejazi, M, "Novel Nonlinear Stiffness Parameters and Constitutive Curves for Concrete," *Computers and Concrete*, Vol. 22, No. 6, December 2018, pp. 539-550.
33. Rajai Al-Rousan, Mohammad Alhassan, and Esmail Alshuqari, "Behavior of Plain Concrete Beams with DSSF strengthened with anchored CFRP Sheets – Effects of DSSF Content on the Bonding Length of CFRP Sheets," *Case Studies in Construction Materials Journal*, Volume 9, December 2018.
34. Mohammad Alhassan, Rajai Al-Rousan, Layla Amaireh, and Muneer Barfed "Nonlinear Finite Element Analysis of B-C Connections: Influence of the Column Axial Load, Jacket Thickness, and Fiber Dosage," *Structures*, Volume 16, November 2018, pp. 50-62.
35. Mohammad Alhassan, Rajai Al-Rousan, and Ayman Ababneh, "Flexural Behavior of Lightweight Concrete Beams Encompassing Various Dosages of Macro Synthetic Fibers and Steel Ratios," *Case Studies in Construction Materials Journal*, Volume 7, December 2017, pp. 280-293.
36. Ayman Ababneh, Rajai Al-Rousan, Mohammad Alhassan, and Mohammed Alqadami, "Influence of Synthetic Fibers on the Shear Behavior of Lightweight Concrete Beams," *Advances in Structural Engineering*, Volume: 20, No. 11, February 2017, pp. 1671-1683.
37. Rajai Al-Rousan, Mohammad Alhassan, and Harith Al-Salman, "Impact Resistance of Polypropylene Fiber Reinforced Concrete Two-Way Slabs," *Structural Engineering & Mechanics Journal*, Volume: 62, No. 3, February 2017, pp. 373-380.
38. Ayman Ababneh, Rajai Al-Rousan, Mohammad Alhassan, and Mashal Sheban "Assessment of

- Shrinkage-Induced Cracks in Slabs Made of Different Cement-Based Materials,” *Construction and Building Materials*, Vol. 131, January 2017, pp. 371-380.
39. Al-Rousan, R, Alhassan, M, & Ababneh, A, “Simulating the Response of CFRP Strengthened Shear-Keys in Composite Concrete Bridges,” *Materials and Design*, Elsevier, Vol. 90, Nov. 2015, pp. 733-744.
 40. Rajai Al-Rousan, Mohammad Alhassan, and Mohsen Issa, “The Optimum Overlay Thickness of Prefabricated Full-Depth Precast Concrete Bridge Deck Panel System – 3D Non-Linear Finite Element Modeling,” *Engineering Structures*, Elsevier, Vol. 100, No. 12, June 2015, pp. 264-275.
 41. Mohammad Alhassan, Suleiman Ashur, and Layla Amaireh, “Impact of Reducing the Latex Content in LMC Bridge Deck Overlays,” *Journal of Multidisciplinary Engineering Science and Technology (JMEST)*, Vol. 2, No. 2, February 2015, pp. 66-69.
 42. Mohammad Alhassan, Bruno Carvalho, Eduardo Sztrajtmán, and Andres Montenegro, “Structural and Architectural Designs of the Optimum Alternative for Rio 2016 Olympic Tennis Stadium,” *International Journal of Applied Science & Technology (IJAST)*, Vol. 4, No. 7, December 2014, pp. 1-14.
 43. Mohammad Alhassan and Suleiman Ashur, “Fibrous Latex-Modified Concrete Overlay for Bridge Decks: Installation and Life- Cycle Cost Analysis,” *Journal of Advanced Science and Engineering Research (JASER)*, Vol. 4, No. 2, June 2014, pp. 74-87.
 44. Mohammad Alhassan, Suleiman Ashur, and Jerry Brown, “Sustainable Fly Ash Concrete Mixtures with Synthetic Fibers,” *International Technical Sciences Journal (ITSJ)*, Vol. 1, No. 1, June 2014, pp. 1-9.
 45. Mohammad Alhassan and Suleiman Ashur, “Developing Course Assessment Tool to Measure the Degree of Achieving Course Learning Outcomes,” *Journal of Systemics, Cybernetics and Informatics*, Vol. 11, No. 6, November 2013, pp. 71-74.
 46. James Welch, Mohammad Alhassan, and Lubna Amayreh, “Analysis and Design of Arch-Type Pedestrian Bridge for Static and Dynamic Loads,” *Journal of Advanced Science and Engineering Research (JASER)*, Vol. 2, No. 3, September 2012, pp. 191-207.
 47. Mohammad Alhassan and Suleiman Ashur, “Sustainable Fly Ash Concrete Overlay Mixture for Preserving Bridge Decks,” *JCCS*, Vol.39, No. 10, Oct. 2011, pp. 77-83.
 48. Mohammad Alhassan and Suleiman Ashur, “Performance-Based Aspects and Constructability of Bridge Deck Latex-Modified Concrete Overlays with and without Fibrous Additives,” *ACI Special Publication (ACI-SP 278)*, *Frontiers in the Use of Polymers in Concrete*, April 2011.
 49. Mohammad Alhassan and Mohsen A. Issa, “Estimation of Drying Shrinkage-Induced Stresses at Bridge Deck Slab-Overlay Bond Interface,” *JCCS*, Vol. 39, No. 1, 2011, pp. 92-98.
 50. Mohammad Alhassan, “Shrinkage-Time Responses of Bridge Deck Overlay Mixtures with Fibrous Additives,” *JCCS*, Vol. 38, No. 9, Sept. 2010, pp. 1638-1644.
 51. Mohammad Alhassan and Mohsen Issa, “Long-Term Protection of Bridge Deck Systems with Structural Latex-modified Concrete Overlays,” *PCI Journal*, Vol. 55, No. 3, summer 2010, pp. 122-137.
 52. Mohsen Issa, Mohammad Alhassan, and Hameed Shabila, “High Performance Plain and Fibrous Latex-Modified and Micro-Silica Concrete Overlays,” *ASCE Materials Engineering*, 20(12), 2008, pp. 472-753.
 53. Issa, M, Alhassan, M., & Hameed Shabila, “Low Cycle Fatigue Testing of HPC Bonded Overlay-Bridge Deck Slab Systems,” *ASCE Journal of Bridge Engineering*, 12(3), pp. 419-428, 2007..
 54. Issa, M, Alhassan, M, & Ramos, J, "Glass Fiber Reinforced Latex-Modified Concrete Using a Volumetric Mixer for Production of Overlays,” *ACI Concrete International*, Vol. 29, No. 3, 3/2007, pp. 48-52.
 55. Mohammad Shannag and Mohammad Alhassan, “Seismic Upgrade of Interior Beam-Column Subassemblages with High-Performance Fiber-Reinforced Concrete Jackets,” *ACI Structural Journal*, Vol. 102, No. 1, 2005, pp. 131-138.

Conference/Symposium Papers

1. Sawalha, A, Alkhaldeh, A, Betoush, N, Amaireh, L, Alhassan, M, & Al Hawamleh, M, "Social Networks Competency in Education Among Working Civil Engineering Students," 10th International Conference on Social Networks Analysis (SNAMS-2023), Abu Dhabi, UAE, 2023.
2. Elrefae, A, Alhassan, M, Issa, M, Amaireh, L, & Mohawesh, R, "Implementation of the IoT Technology in Structural Health Monitoring of Bridges: Case Study," 2023 International Conference on Intelligent Computing, Communication, Networking and Services (ICCNS), Valencia, Spain, 2023, pp. 254-258.
3. Alhassan, M (Speaker), Maher, A, Supaphol, O, Vader, J, & Mastin, J, "Evaluation of the Water Retention Capacity of a Pioneering Sustainable Liquid Natural Clay," 18th Edition of the Sustainability and Cutting-Edge Business Technologies (SICB 2023), AL-Zaytoonah University, Jordan, May 22-24, 2023.
4. Alkhaldeh, A, Betoush, N, Alkhaldeh, M, Alhassan, M, & Amaireh, L, "On-site Recycling of the Construction Demolition Wastes: Feasibility and Sustainability," 18th Edition of the Sustainability and Cutting-Edge Business Technologies (SICB 2023), AL-Zaytoonah University, Jordan, May 22-24, 2023.
5. Mohammad Alhassan, Suleiman Ashur, Haythem Bany Salameh, Layla Amaireh, and Ahmed Maher, "Integration of IoT Technology in Treatment of Pedestrian-Crossing at Intersections," The IOTSMS 2022, Milan, Italy. November 29 - December 1, 2022.
6. Mohammad Alhassan (Speaker), Haythem Bany Salameh, Layla Amaireh, Mohannad Alhafnawi, and Nour Betoush, "The Emerging Engineering Applications of Artificial Neural Networks: A Visionary Study," The ACIT'2022, Abu Dhabi, 22-24 November 2022.
7. Ayah A. Alkhaldeh, Mohammad Alhassan, and Ahmed Elrefae, "A Case Study of Implementing Life Cycle Cost Analysis in Sustainability Assessment," The ACIT'2022, Abu Dhabi, 22-24 November 2022.
8. Mohammad Alhassan (Speaker), Rajai AL-Rousan, and Anis Shatnawi, "Experimental Evaluation of the Shear Strength of the Unidome Slab System," The Coordinating Engineering for Sustainability and Resilience Conference (CESARE'22), Jordan, May 2022.
9. Abeer Al Dalou, Nour Betoush, Nasser Al-Huthaifi, and Mohammad Alhassan, "Fracture Toughness of Latex-Modified Concrete Overlays Integrated with Macro Synthetic Fibers," The Coordinating Engineering for Sustainability and Resilience Conference (CESARE'22), Jordan, May 2022.
10. Nour Betoush, Ayah Alkhaldeh, Nasser Al-Huthaifi, and Mohammad Alhassan, "Optimal Prediction of the Fracture Parameters of Concrete Based on Artificial Neural Networks," The Coordinating Engineering for Sustainability and Resilience Conference (CESARE'22), Jordan, May 2022.
11. Mohammad Alhassan (Speaker), Mohsen Issa, and Layla Amaireh, "Creation of Smart Structures with the Aid of IoT," The 8th International Conference on Internet of Things: Systems, Management and Security (IOTSMS 2021_03), Gandia, Spain, December 6-9, 2021.
12. Mohammad Alhassan (Speaker), Rajai Al-Rousan, and Moheldeen Hejazi, "Analysis of Rectangular Plates Based on the Hydrostatic Point Phenomenon," The 4th World Congress on Civil, Structural, and Environmental Engineering (CSEE'19), Rome, Italy, DOI: 10.11159/icsect19.105, 7-9 April 2019.
13. Mohammad Alhassan (Speaker) & Gerard Güell Bartrina, "Reinforcing Civil Engineering Curricula with Courses Including Project-Based Software Applications," The 12th Annual International Technology, Education and Development Conference (INTED 2018), Valencia, 5-7 March, 2018, pp. 1923-1932.
14. Mohammad Alhassan (Speaker) and Dihong Shao, "Use of Tuned Mass Dampers to Control Excessive Vibrations of Pedestrian Bridges," The Coordinating Engineering for Sustainability and Resilience Conference (CESARE'17), Dead Sea, Jordan, May 2017.
15. Mohammad Alhassan (Speaker), Jacob Baily, Jeremy Hoffman, Jerry Brown, and Layla Amaireh, "Shear Behavior of NWC and LWC Beams Comprising Structural Synthetic Fibers," Proceedings of the International Conference on Infrastructure Management, Assessment and Rehabilitation Techniques (ICIMART'16), The American University of Sharjah (AUS), UAE, March 8-10, 2016, pp. 109-119.
16. Suleiman Ashur (Speaker) and Mohammad Alhassan, "Integrated and Effective Assessment Tool to Evaluate Engineering Courses," The 121st ASEE Annual Conference, Indianapolis, IN, June 15-18, 2014.
17. Mohammad Alhassan (Speaker) and Suleiman Ashur, "Developing Course Assessment Tool to Measure

- the Degree of Achieving Course Learning Outcomes,” The 2nd International Conference on Education, Informatics, and Cybernetic: (icEIC 2012), Nov.13-16, 2012, Orlando, FL, pp. 70-73.
18. Suleiman Ashur and Mohammad Alhassan, “Assessment of Students’ Performance in Statics to Identify Weaknesses and Improve Learning Outcomes,” The 2012 ASEE Illinois/Indiana Conference, Valparaiso University, Valparaiso, IN, March 17-18, 2012.
 19. Suleiman Ashur (Speaker), Mohammad Alhassan, Dong Chen, and Shan Gunawardena, “Integrating Professional Software in Undergraduate Civil Engineering Education,” The 4th International Multi-Conference on Engr. and Technological Innovation: IMETI 2011, July 19-22, 2011, Orlando, Florida.
 20. Mohammad A. Alhassan (Speaker) and Suleiman A. Ashur, “Sustainable Fly Ash Bridge Deck Concrete Overlay,” 2011 World of Coal Ash Conference (WOCA11), CD-ROM, Denver, CO, May 9-12, 2011.
 21. Mohammad Alhassan and James Welch (Speaker), “Incorporating very Powerful Structural Analysis and Design Software Packages into Civil Engineering Courses,” The 2010 ASEE Annual Conference, Paper No.: AC 2010-2267, June 20-23, Louisville, KY, 2010.
 22. Mohammad Alhassan (Speaker), “Shrinkage-Time Responses of LMC, MSC, and FAC Bridge Deck Overlay Mixtures with Fibrous Additives,” The 7th International Symposium on Cement & Concrete (ISCC2010), Ji’nan, China, May 2010.
 23. Mohammad Alhassan (Speaker) and Suleiman Ashur, “Performance-Based Aspects and Constructability of Bridge Deck Latex-Modified Concrete Overlays with and without Fibrous Additives,” The ACI 2010 Spring Convention proceedings, CD-ROM, Chicago, IL, March 21-25, 2010.
 24. Mohammad Alhassan (Speaker) and Suleiman Ashur, “Fibrous Bridge Deck Concrete Overlay: Parameters of Investigation and Preliminary Experimental Results,” The TRB 89th, CD-ROM, No. 10-2233, Session 535, WA, D.C., Jan. 10-14, 10.
 25. Mohammad Alhassan (Speaker), “Improving the Seismic Behavior of Critically-Detailed RC Beam-Column Joints with Fiber Reinforce Concrete Jackets,” Proceedings of the New Materials and Innovative Approaches for Seismic Rehabilitation, ATC & SEI Conference on Improving the Seismic Performance of Existing Buildings and Other Structures, San Francisco, CA, Dec. 8-12, 2009.
 26. Mohammad Alhassan and Mohsen Issa, “Simplified shrinkage-prediction model applicable to high performance concrete,” Creep, Shrinkage, and Durability Mechanics of Concrete and Concrete Structures, Proceedings of the CONCREEP8 Conference, Chapter 186, Ise-Shima, Japan, 30 Sept.-2 Oct. 2008.
 27. Mohammad Alhassan (Speaker) and Mohsen Issa, “Long Term Protection of Bridge Deck System with Constructible Fibrous Bonded Latex-Modified Concrete Overlay Having Structural Benefits,” The 2008 PCI National Bridge Conference, 54th Annual Convention, Oct. 4-7, 2008, Orlando, Florida, 20 p.
 28. Mohsen Issa, Mohammad Alhassan, and Rajai Alrousan, "Response of Reinforced Concrete Slabs Strengthened with Different Types and Configurations of CFRP," The 8th International Symposium on Fiber Reinforced Polymer Reinforcement for Concrete Structures, Patras, Greece, July 16-18, 2007.
 29. Mohsen Issa, Mohammad Alhassan, and Rajai Alrousan, "Durability of CFRP Repairs under Severe Environmental Exposures and Fatigue Loading," The CDCC 2007, Canada, 2007.
 30. Rajai Alrousan, Mohammad Alhassan, and Mohsen Issa, “Nonlinear Finite Element Modeling of RC Beams Strengthened with Different CFRP Schemes,” The CICE 2006, Miami, Florida, Dec. 2006.
 31. Mohsen Issa, Mohammad Alhassan, and Rajai Alrousan, “High Performance Bonded Concrete Overlays for Full-Depth and Segmental Bridge Deck Construction,” The PCI NBC 2006, Texas, USA, Sept. 2006.
 32. Mohammad Alhassan, Hameed Shabila, and Mohsen Issa, “Successful Development of Crack-Resistant Durable HPC Based on Target Performance Criteria,” The Structural Systems, Civil Eng. Infrastructure Systems, CEIS 2006, American Univ. of Beirut, Lebanon, June 06, 6p.
 33. Mohsen Issa, Mohammad Alhassan, Hameed Shabila, and Jeff Krozel, “Laboratory Performance Evaluation of Self Consolidated Concrete,” The 2nd North American Conference on the Design and Use of Self-Consolidating Concrete (SCC), Chicago, IL, Nov. 2005, pp. 857-862.
 34. Mohsen Issa, Hameed Shabila, and Mohammad Alhassan, “Structural Health Monitoring Systems for Bridge Decks and Rehabilitated Precast-Prestressed Concrete Beams,” Proceedings of “Sensing Issues in

Civil Structural Health Monitoring,” Edited by F. Ansari, Session VI, Sensors & Instrumentation Performance & Reliability, 2004, pp. 363-372.

35. Mohsen Issa, Hameed Shabila, and Mohammad Alhassan, “High Performance Concrete for Bridge Decks and Overlays: Laboratory and Field Investigations,” Proceedings of the Innovations and Emerging Technology in Concrete Technology, The 7th International Conference on Concrete Technology in Developing Countries, Kuala Lumpur, Malaysia, October 7, 2004, pp. 1-12.

Books/Technical Reports/Specifications

1. Mohammad Alhassan and Suleiman Ashur, “Superiority & Constructability of Fibrous Additives for Bridge Deck Concrete Overlays,” Research Report FHWA-ICT-12-003, Illinois Center for Transportation (ICT), June 2012.
2. Suleiman Ashur and Mohammad Alhassan (2015). Selection of pedestrian crossing treatments at controlled and uncontrolled locations (Joint Transportation Research Program Publication No. FHWA/IN/JTRP-2015/03). Purdue University, <http://dx.doi.org/10.5703/1288284315522>.
3. Co-author of “Guide for Polymer Concrete Overlays,” An ACI Standard Reported by ACI Committee 548, ACI 548.5R-16, American Concrete Institute (ACI), January 2016.
4. Co-author of “Specification for Bonding Fresh Concrete to Hardened Concrete with a Multi-Component Epoxy Adhesive,” An ACI Standard Reported by ACI Committee 548, ACI 548.13-14, October 2014.
5. Co-author of “Specification for Bonding Hardened Concrete and Steel to Hardened Concrete with an Epoxy Adhesive,” An ACI Standard Reported by ACI Committee 548, ACI 548.12-12, March 2013.
6. Co-author of “Guide for the Application of Epoxy and Latex Adhesives for Bonding Freshly mixed and Hardened Concrete,” An ACI Standard Reported by ACI Committee 548, ACI 548.11R-12, 2012.
7. Co-author of “State-of-the-Art Report on Full-Depth Precast Concrete Bridge Deck Panels” Precast/Prestressed Concrete Institute (PCI), Prepared by the PCI Committee on Bridges and the PCI Bridge Producers Committee Under the Direction of the sub-committee for the State-Of-The-Art Report on Full-Depth Precast Concrete Bridge Deck Panels, 1st Ed., 2011.
8. Mohammad Alhassan, Bridge Deck Fibrous Concrete Overlays: Performance-Based Aspects and Structural Benefits, VDM Pub. House Ltd., ISBN 978-3-639-21647-9, 2009.

Grants & Consultation

1. Mohammad Alhassan (PI) and Suleiman, “Superiority and Constructability of Fibrous Additives for Bridge Deck Overlays” Funded by the Illinois Center for Transportation (ICT/IDOT), R27-57, \$160,000 (1/2009 – 12/2011).
2. Suleiman Ashur (PI) and Mohammad Alhassan (Co-PI), “Selection of Pedestrian Crossing Treatments (mid-Block and Roundabouts, ADA)” Funded by JTRP-INDOT, SPR-3723, \$45,086, 1/2013 – 2/2014.
3. Mohammad Alhassan and Rajai Al-Rousan, “Evaluation of the Unidome Slab System” Funded by The Extensive Engineering Enterprises LLC through The Consultative Center For Science and Technology (CCST) at JUST, (October 2020), ~JD 15,500.
4. Research Team Member, “ADDitively Manufactured OPTimized Structures by means of Machine Learning” ADDOPTML, Project Number: 101007595, Horizon 2020, The EU Framework Programme for Research and Innovation, 2021-2024, 2,410,400.00 €.
5. Research Team Member, “Optimization Driven Architectural Design of Structures” OptArch, Project Number: 689983, The EU Research Executive Agency (RCA), 2016-2019, 1,620,000.00 €.
6. Rajai Al-Rousan and Mohammad Alhassan, “Evaluation of the U-Boot Beton Slab System” Funded by The Technical Link for Technology and Building Materials through The Consultative Center For Science and Technology (CCST) at JUST, (October 2020), ~JD 14,000.
7. Bongsu Kang (PI – 50%) and Mohammad Alhassan (Co-PI – 50%), “Finite Element Analysis of Cabinet Structural Model,” Indiana Next Generation Manufacturing Competitiveness Center (IN-MaC),

Sponsored by WaterFurnace International, Inc., February 2016 – August 2016, \$40,000.

8. Don Mueller (PI – 75%) and Mohammad Alhassan (Co-PI – 25%), “Thermal Modeling of Heat Loss from Slab Construction Home” Project funded by the State of Indiana through the Technical Assistance Program (TAP) at Purdue University, TAP Project, Summer 2014, ~\$2,500.
9. Mohammad Alhassan, “Development of Sustainable Fibrous Fly Ash Concrete Mixtures” 2013 IPFW Summer Faculty Research Grant, \$8,000.
10. Mohammad Alhassan, “Methodology to Design the Internal Partition for a Horizontal Pressure Vessel-Quick Tanks Inc.” Project funded by the State of Indiana through the Technical Assistance Program (TAP) at Purdue University, TAP Project #13103, September-October 2012, \$2,200.
11. Mohammad Alhassan, “Concrete Wall Section Analysis and Evaluation” Project funded by the State of Indiana through the Technical Assistance Program (TAP) at Purdue University, Company name: Midwest F.A.S.T. Structures, August-September 2011, \$2,000.
12. Mohammad Alhassan, “Influence of Fibrous Additives on the Performance-Based Aspects of Bonded Bridge Deck Concrete Overlays” 2009 IPFW Summer Faculty Research Grant, \$8,000.
13. Suleiman Ashur and Mohammad Alhassan “Toward ABET Accreditation of a New IPFW Civil Engineering Program: Developing and Implementing Improved Assessment Plan” IPFW Vice Chancellor of Academic Affairs Assessment Office, \$1,500 (2011).

Teaching Activities

Courses Taught

- Statics
- Dynamics
- Surveying Lab
- Structural Analysis II
- Materials Lab
- Earthquake Engineering
- Fracture Mechanics & Experimental Testing (PhD Level)
- Mechanics
- Surveying
- Structural Analysis I
- Construction Materials
- Reinforced Concrete Design I
- Steel Design

Graduate Courses Taken

- Fracture Mechanics & Failure Analysis I
- Finite Element Analysis I
- Bridge Design I
- Advanced RC Design (Seismic Design)
- Advanced RC Design
- Advanced Mechanics of Materials
- Analytical Methods in Transportation
- Special Topics in Civil Engineering
- Fracture Mechanics & Failure Analysis II
- Nonlinear Finite Element Analysis
- Nondestructive Testing of Concrete
- Elastic Stability of Structures
- Finite Element Methods
- Structural Dynamics
- Advanced Steel Design
- Advanced Concrete Technology

Notable Teaching Achievements

ABET Accreditation

- Building the Civil Engineering Program at Al Ain University and seeking its 1st ABET accreditation (Expected in 2023/2024). Hired all faculty members, established all laboratories, developed assessment process, revised the curriculum, modified all courses syllabi and mapping.
- 1st ABET accreditation of the civil engineering program at JUST in 2017. I was part of the ABET committee and heavily involved in preparing the self-study report and the assessment process.
- 1st ABET accreditation of the civil engineering program at IPFW in 2012. I was part of the ABET committee and heavily involved in preparing the self-study report and the assessment process.

YouTube Channel: <https://www.youtube.com/channel/UCe90gdZHsltq8PDyj1R7F0w>

- I created a free for all YouTube Channel with full lectures of the following courses: Structural Analysis 1, Structural Analysis 2, Reinforced Concrete Design, and Steel Design. I have over 2000 subscribers from more than 50 countries, with around 200,000 lectures' views.

Memberships/Licenses

- Member of the American Concrete Institute (ACI), since 2009
- Voting Member of ACI Committee 548 & Member of ACI Committee 209
- Member, Jordanian Engineers Association (JEA), since 2000
- Registered Licensed Structural Engineer in Jordan, since 2000
- Engineering Intern (EI), State of Indiana, since 2010.

Google Scholar: <https://scholar.google.com/citations?user=4uCR4AIAAAAJ&hl=en>

ResearchGate Account: https://www.researchgate.net/profile/Mohammad_Alhassan

YouTube Channel: <https://www.youtube.com/channel/UCe90gdZHsltq8PDyj1R7F0w>