

Personal Details

Name: Hasan N. Katkhuda
Date of Birth: 15th January 1975
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Marital Status: Married with two kids



Education

- Ph.D. Civil Engineering, The University of Arizona, Tucson, Arizona, 2004.
Title of the dissertation: “*In-service health assessment of real structures at the element level with unknown input and limited global responses.*”
- M.S. Civil Engineering, University of Jordan, Amman, Jordan, 2000.
- B.S. Civil Engineering, Jordan University of Science and Technology, Irbid, Jordan, 1997.

Academic Experience

9/2020-Present Professor, Department of Civil Engineering, The Hashemite University, Zarqa, Jordan.

9/2018- 9/2020 Professor, Department Head of Civil Engineering, The Hashemite University, Zarqa, Jordan.

Responsibilities:

- Manage the Civil Engineering Department in the Hashemite University; the department has one program in B.S. Civil Engineering. The number of students is more than 850, the number of Faculty members is 18, and the number of Laboratory technicians /engineers in the department is 8.
- Supervise the preparation of the self-study report for ABET accreditation.
- Supervise the ABET visit to the department which led to full accreditation to the B.S. program for 6 years without any comments, weaknesses or deficiencies.
- Develop Master program curriculum for Earthquake and Structural engineering; this program is still under accreditation approval.
- Prepare tender documents for the construction of structural laboratory in the Hashemite University. In addition to other tender documents for required instruments in the laboratory. This structural lab. was designed with the support of University of Texas in Arlington, USA and is considered the first lab. in the region that is equipped with the state of art instruments and shaking table similar to the structural Labs in the United States. The cost of the lab is estimated around 10 million Jordanian Dinars.
- Prepare tender documents and provide technical consultations for many mega projects in the Hashemite University including but not limited to: sport city, desalination station for brackish water, and 4 MW PV car park and walkways canopies projects.

- 2/2018- 9/2018** Professor, Department of Civil Engineering, The Hashemite University, Zarqa, Jordan.
- 5/2011- 2/2018** Associate Professor, Department of Civil Engineering, The Hashemite University, Zarqa, Jordan.
- 9/2012-9/2014** Sabbatical and unpaid leave from The Hashemite University, Zarqa, Jordan.
- 9/2012-9/2014** Founding Chair of Civil and Infrastructure Engineering Department, American University of Ras AlKhaimah (AURAK), Ras AlKhaimah, UAE; And
Advisor to the president for campus development

Responsibilities:

- Develop a curriculum for Bachelor of Science in Civil and Infrastructure Engineering according to the Commission for Academic Accreditation (CAA) Standards, Ministry of Higher Education and Scientific Research, United Arab Emirates and ABET requirements. (The Department got the ABET accreditation on August 2018).
- Establish the laboratories of Civil and Infrastructure Engineering Department. This includes construction of material, fluid, surveying, pavement, soil and AutoCAD laboratories.
- Committee member for applying to the Southern Association of Colleges and Schools Commission on Colleges (SAC-COC) accreditation.
- Develop a dual program degree in civil and infrastructure engineering with University of Texas- Arlington, USA.
- Prepare program learning outcomes assessment tools for school of engineering for quality assurance purposes.
- Plan, design, and supervise of new buildings and infrastructure facilities in the university campus.

- 2/2005-5/2011** Assistant Professor, Department of Civil Engineering, The Hashemite University, Zarqa, Jordan.

Courses Taught:

- Engineering Drawings(Manual-AutoCAD)
- Statics
- Strength of materials
- Strength of materials lab
- Structure Analysis
- Steel Design
- Computer Application in Structural Engineering

- Introduction to Finite Element Analysis
- Graduation Projects

8/2001-12/2004 Department of Civil Engineering and Engineering Mechanics, The University of Arizona, Tucson.

Responsibilities:

- Graduate student for Ph.D. Degree in Structures. Working on the Ph.D. dissertation under the supervision of Prof. Achintya Haldar.
- Teaching Assistant for:
 - CE 210- Engineering Graphics
 - CE 214- Statics
 - CE 215- Mechanics of Solids
 - CE 310- Probability and Statistics in Civil Engineering
 - CE 410/510- Probability in Civil Engineering.

Research Interests

- Structural Health Monitoring
- Structural Engineering
- System identification
- Concrete Technology

Publications in Refereed Journals:

1. Arabiyat S., Abdel Jaber M., **Katkhuda H.**, Shatarat N. (2021),"Influence of Using Two Types of Recycled Aggregates on Shear Behavior of Concrete Beams", *Journal of Construction and Building Materials, Elsevier*, volume 279, 122475.
<https://doi.org/10.1016/j.conbuildmat.2021.122475>
2. Abedalqader A., Shatarat N., Ashteyat A., and **Katkhuda H.** (2021)," Influence of Temperature on Mechanical Properties of Recycled Asphalt Pavement Aggregate and Recycled Coarse Aggregate Concrete, *Journal of Construction and Building Materials, Elsevier*, volume 269, 121285.
3. Shatarat N., Hunifat R., Murad Y., **Katkhuda H.**, and Abdel Jaber M. (2020)," Torsional Capacity Investigation of Reinforced Concrete Beams with Different Configurations of Welded and Un-Welded Transverse Reinforcement", *Structural Concrete Journal*, Volume 21, No. 2, pp. 484-500.
4. Shatarat N., Abde Alhaq A., **Katkhuda H.**, and Abdel Jaber M. (2019)," Investigation of axial compressive behavior of reinforced concrete columns using Recycled Coarse Aggregate and Recycled Asphalt Pavement aggregate", *Journal of Construction and Building Materials, Elsevier*, Volume 217, pp. 384-393.
DOI: <https://doi.org/10.1016/j.conbuildmat.2019.05.085>

5. **Katkhuda H.**, Shatarat N., and AL-Rakhameen A. (2019)," Improving the Torsional Capacity of Reinforced Concrete Beams with Spiral Reinforcement", *International Journal of Structural and Civil Engineering Research*, Vol. 8, No. 2, pp. 113-118.
6. Al Qablan H., Rababeh S., **Katkhuda H.**, and Al-Qablan T. (2019), "On the Use of Wooden Beams as Anti-Seismic device in Stone Masonry in Qasr el-Bint, Petra, Jordan", *Journal of Building Engineering, Elsevier*, Volume 21, pp. 82-96.
DOI: <https://doi.org/10.1016/j.jobe.2018.10.002>
7. Shatarat N., Mahmoud H., and **Katkhuda H.** (2018)," Shear Capacity Investigation of Self Compacting Concrete Beams with Rectangular Spiral Reinforcement", *Journal of Construction and Building Materials, Elsevier*, Volume 189, pp. 640-648.
DOI: <https://doi.org/10.1016/j.conbuildmat.2018.09.046>
8. Shatarat N., **Katkhuda H.**, Hyari K., and Asi I. (2018)," Effect of using recycled coarse aggregate and recycled asphalt pavement on the properties of pervious concrete ", *Structural Engineering and Mechanics: an International Journal, Techno press*, Volume 67, No. 3, pp. 283-290.
DOI: <https://doi.org/10.12989/sem.2018.67.3.283>
9. Dwairi H., Al Qablan H., and **Katkhuda H.**, (2018)," Shear strength modelling of deep beam reinforced with high-strength steel without stirrups", *Proceedings of the Institution of Civil Engineers - Structures and Building*, Volume 171, No. 4, pp. 338-347.
DOI: <https://doi.org/10.1680/jstbu.17.00009>
10. Tarawneh Z., Hyari H., and **Katkhuda H.** (2017),"Evaluating the Characteristics of Multiyear Extreme Droughts in Semi-Arid Regions", *Environmental Processes, Springer*, Volume 4, No.3, pp. 683-696.
DOI: <https://doi.org/10.1007/s40710-017-0246-7>
11. **Katkhuda H.**, Shatarat N., and Hyari K.(2017)," Damage Detection in Steel Structures with Semi-rigid Connections Using Unscented Kalman Filter", *International Journal of Structural Integrity, Emerald Group Publishing Limited*, Volume 8, No. 2, pp. 222-239.
DOI: <https://doi.org/10.1108/IJSI-04-2016-0014>
12. **Katkhuda H.**, Shatarat N. (2017), "Improving the Mechanical Properties of Recycled Concrete Aggregate Using Chopped Basalt Fibers and Acid Treatment ", *Journal of Construction and Building Materials, Elsevier*, 140, pp. 328-335.
DOI: <http://dx.doi.org/10.1016/j.conbuildmat.2017.02.128>

13. **Katkhuda H.**, Shatarat N., and Hyari K.(2017)," Effect of Silica Fume on Mechanical Properties of Concrete Containing Recycled Asphalt Pavement", *Structural Engineering and Mechanics: an International Journal*, Techno press, Volume 62, No. 3, pp. 357-364.
DOI: <http://dx.doi.org/10.12989/sem.2017.62.3.357>
14. **Katkhuda H.**, Shatarat N., and Hyari K. (2017),"Two Stage System Identification Approach for Three Dimensional Structural Systems", *International Journal of Structural Engineering*, Inderscience publisher, Volume 8, No.2, pp. 93-110.
DOI: <https://doi.org/10.1504/IJSTRUCTE.2017.084628>
15. **Katkhuda H.**, Shatarat N. (2016), "Shear Behavior of Reinforced Concrete Beams using treated Recycled Concrete Aggregate", *Journal of Construction and Building Materials*, Elsevier, 125, pp.63-71.
DOI: <http://dx.doi.org/10.1016/j.conbuildmat.2016.08.034>
16. Hyari K., Khelifi A., and **Katkhuda H.** (2016),"Multiobjective Optimization of Roadway Lighting Projects", *Journal of Transportation Engineering*, ASCE, Volume 142, No. 7.
DOI: [http://dx.doi.org/10.1061/\(ASCE\)TE.1943-5436.0000853](http://dx.doi.org/10.1061/(ASCE)TE.1943-5436.0000853)
17. Hyari K., Tarawneh Z., and **Katkhuda H.** (2016), "Detection Model for Unbalanced Pricing in Construction Projects: A Risk-Based Approach", *Journal of Construction Engineering and Management*, ASCE, Volume 142, No. 12.
DOI: [http://dx.doi.org/10.1061/\(ASCE\)CO.1943-7862.0001203](http://dx.doi.org/10.1061/(ASCE)CO.1943-7862.0001203)
18. Nasim Shatarat, **Hasan Katkhuda**, Mu'tasim Abdel-Jaber, Maha Alqam (2016)," Experimental Investigation of Reinforced Concrete Beams with Spiral Reinforcement in Shear", *Journal of Construction and Building Materials*, Elsevier, 125, pp.585-594.
DOI: <http://dx.doi.org/10.1016/j.conbuildmat.2016.08.070>
19. **Katkhuda H.** (2013), "A Time Domain Approach for Identifying Dynamic Forces Applied on Structures", *Jordan Journal of Civil Engineering*, Volume 7, No. 3, pp. 259-269.
20. Hanayneh B., Shatarat N., and **Katkhuda H.**(2012),"Improving Durability of Concrete to Phosphoric Acid Attack", *Jordan Journal of Civil Engineering*, Volume 6, No. 1, pp. 68-82.
21. **Katkhuda H.**, Dwairi H., and Shatarat N. (2010), "System Identification of Steel Framed Structures with Semi-rigid Connections", *Structural Engineering and Mechanics*, Techno press, Volume 34, Number 3, pp. 351-366.

22. **Katkhuda H.**, Hanayneh B. and Shatarat N. (2010), "Effect of Microsilica and Water proofer on Resistance of Concrete to Phosphoric Acid Attack", *Jordan Journal of Civil Engineering*, Volume 4, No. 4, pp. 426-438.
23. Shatarat N., Hanayneh B. and **Katkhuda H** (2010), "An Analytical Approach of the Behavior of Fiber Reinforced High Shrinkage Materials", *Journal of Applied Sciences*, Volume 10, No. 15, pp. 1580-1587.
24. Shatarat N., Al-Sadder S., **Katkhuda, H.**, Qablan H. and Shatnawi A. (2009), "Behavior of a Rhombus Frame of Nonlinear Elastic Material under Large Deflection", *International Journal of Mechanical Sciences, Elsevier*, (51), pp. 166-177.
25. **Katkhuda, H.**, Shatarat N. and Qablan H. (2009), "Damage Detection at Element Level in Structures with Different Support Conditions", *Journal of Applied Sciences*, Volume 9, No.21, pp. 3906-3911.
26. Husam Al Qablan, **Hasan Katkhuda** and Hazim Dwairi (2009), "Assessment of the Buckling Behavior of Square Composite Plates with Circular Cutout Subjected to In-Plane Shear", *Jordan Journal of Civil Engineering*, Volume 3, No. 2, pp. 184-195.
27. Haldar A., Martinez-Flores, R., and **Katkhuda, H.** (2008), "Crack Detection in Existing Structures Using Noise-Contaminated Dynamic Responses", *Theoretical and Applied Fracture Mechanics Journal, Elsevier*, (50), pp. 74-80.
28. Martinez-Flores, R., **Katkhuda, H.**, and Haldar, A. (2008), "A Novel Health Assessment Technique with Minimum Information: Verification," *International Journal of Performability Engineering*, Vol. 4, No. 2, pp. 121-140.
29. **Katkhuda, H.**, and Haldar, A. (2008), "A Novel Health Assessment Technique with Minimum Information," *Structural Control and Health Monitoring Journal*, Vol. 15, No. 6, pp. 821-838.
30. **Katkhuda, H.**, and Haldar, A. (2006), "Defect Identification under Uncertain Blast Loading," *Optimization and Engineering Journal*, Vol. 7, No. 3, pp. 277-296.
31. **Katkhuda, H.**, Flores, R.M., and Haldar, A. (2005), "Health Assessment at Local Level With Unknown Input Excitation," *Journal of the Structural Engineering, ASCE*, Vol. 131, No. 6, pp. 956-965.
32. **Katkhuda, H.**, Flores, R.M., and Haldar, A. (2004), "A Novel Defect Identification And Structural Health Assessment Technique," *Journal of Structural Engineering*, Special issue on Advances in Health Monitoring/Assessment of Structures including Heritage and Monument Structures, Vol. 31, No. 1, pp. 1-8.

International Conferences:

1. **Katkhuda H.**, Shatarat N., and AL-Rakhameen A., "Improving the Torsional Capacity of Reinforced Concrete Beams with Spiral Reinforcement", *6th International Conference on Civil and Urban Engineering (ICCUE 2019)*, Leuven, Belgium.
2. **Katkhuda H.**, Hanayneh B. and Shatarat N., "Influence of Silica Fume on High Strength Lightweight Concrete", *International Conference on Civil and Environmental Engineering (ICCEE'09)*, Venice, Italy, 28-30 October 2009, pp. 398-405.
3. **Katkhuda, H.**, Martinez-Flores, and Haldar, A., "A Novel Structural Health Assessment Technique using Noise-Contaminated Limited Response Information," *10th International Conference on Structural Safety and Reliability (ICOSSAR'09)*, Paper No. ICOSSAR2009: 0058, 2009.
4. Haldar, A., **Katkhuda, H.**, and Martinez-Flores, R., "Structural Health Assessment at the Element Level," *International Conference Mesomechanics*, Giza, Egypt, January 28 – February 1, 2008, Paper No. M-46.
5. **Katkhuda, H.**, Shatarat N., and Abdel-Jaber M., "System Identification in Plane Steel Frames with Semi-Rigid Supports," *6th International Conference of Steel and Aluminum Structures (ICSAS'07)*, Oxford, UK, 24-27 July, 2007, pp. 915-922.
6. Al-Sadder S.Z., Othman R.A, Shatanawi A.S., Abdel-Jaber M.T., **Katkhuda H.N**, and Ahmed N., "Dynamic Behavior of Slender Beams Under Large Deflection by Method of Characteristics", *6th International Conference of Steel and Aluminum Structures (ICSAS'07)*, Oxford, UK, 24-27 July, 2007, pp. 254-265.
7. Haldar, A., Martinez-Flores, R., and **Katkhuda, H.**, "Verifications of a Novel Structural Health Assessment Technique," *10th International Conference on Applications of Statistics and Probability (ICASP10-2007)*, Japan, 2007.
8. Haldar, A., Martinez-Flores, R., and **Katkhuda, H.**, "Health Assessment of Structures under Uncertainty," *Health Monitoring of Structure, Material & Environment*, Southeast University, Nanjing, China, October 16-18, pp. 195-201, 2007.
9. Martinez-Flores, R., Haldar, A., and **Katkhuda, H.**, "Issues in Kalman Filter-based Damage Evaluation at the Element Level without Excitation Information," *World forum on Smart Materials and Smart Structures Technology (SMSST'07)*, Chongqing and Nanjing, China, May 22-27, 2007.

10. Martinez-Flores, R., Haldar, A., and **Katkhuda, H.**, "Structural Health Assessment After an Impact," Paper No. IMECE 2006-13718, *American Society of Mechanical Engineering*, 2006.
11. Hadid, H. and **Katkhuda H.**, "Wind Load Analysis of Cantilever Cylindrical Tanks with Variable Thickness", *4th Jordanian Civil Engineering Conference*, 28-30 March, 2006, Amman, Jordan,
12. Haldar, A., Martinez-Flores, R., and **Katkhuda, H.**, "Structural Health Assessment Using Minimum Information under Uncertainty," *Keynote Lecture, Structural Engineering Convention, Indian Institute of Science*, Bangalore, India, pp. 57-71, December, 2005.
13. **Katkhuda, H.**, Haldar, A., and Flores, R.M., "System Identification Under Uncertainty," *9th International Conference On Structural Safety And Reliability (ICOSSAR'05)*, June, 2005.
14. Flores, R.M., Haldar, A., and **Katkhuda, H.**, "Experimental Verification of a Structural Health Assessment Technique," *9th International Conference on Structural Safety and Reliability (ICOSSAR'05)*, June, 2005.
15. **Katkhuda, H.**, and Haldar, A., "Defect Detection At Local Level Using Sub-Structure Model With Unknown Input Excitation," *9th ASCE EMD/SEI/GI/AD Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability*, Albuquerque, New Mexico, July 26-28, 2004, (CD-ROM).
16. **Katkhuda, H.**, Martinez, R. F., and Haldar, A., "Stiffness Identification Under Uncertain Blast Loading," *Third International Symposium on Uncertainty Modeling and Analysis, University of Maryland*, College Park, Maryland, September 21-24, 2003, pp. 22-27.

Book Chapters:

1. **Katkhuda, H.**, and Haldar, A., "Chapter 13- Structural Health Assessment Under Uncertainty", *Recent Developments in Reliability-Based Civil Engineering*, edited by A. Haldar, World Scientific Publishing Co., 2006.
2. **Katkhuda, H.**, and Haldar, A., "Chapter 21 - System Identification at Local Level under Uncertainty", *Applied Research In Uncertainty Modeling And Analysis*, Edited by N. O. Attoh-Okine and B.M. Ayyub, Springer Science Publishers, New York, pp. 461-490, 2005.

Graduate Advising

The Civil Engineering Department in the Hashemite University does not have a graduate study program until this moment, but a Master program in Structural Engineering was prepared by myself and the university is still waiting the accreditation approval.

However, I was a member committee for Master thesis defense in the University of Jordan for more than 40 master theses during the last 15 years and until this moment. In addition to being co-advisor for two master theses:

- 1- Flexural Strengthening and Rehabilitation of Reinforced Concrete T-Beams Using External Carbon Fiber Reinforced Polymers.
- 2- Shear Strengthening and Rehabilitation of Reinforced Concrete T-Beams Using Externally Carbon Fiber Reinforced Polymer.

Industry Experience

2/2005- present Free-lancer Structural designer and Consultant for several projects in Jordan, Georgia, Yamen, and Syria.

Projects in Jordan:

- **North Shouneh and Shobak Wastewater Treatment Facilities:** Structural designer for underground settling, anaerobic, denitrification and digestion basin tanks. In addition to drying beds, sand filters, distribution boxes, pump stations and retaining walls. These projects were funded by the USAID/Jordan.

Projects in Syria:

- **Water Supply and Sanitation in Support of Two Palestine Refugee Camps, Khan Eshieh and Khan Dannoun (Part 1):** Finite element modeling and structural design for two elevated circular concrete water tanks. The height of the tanks was 35 and 45 m above ground. The tanks were analyzed and designed for static, wind and dynamic loads. The earthquake loads were carried out according to the IBC 2006. The project was funded by UNRWA.
- **Water Supply and Sanitation in Support of Two Palestine Refugee Camps, Khan Eshieh and Khan Dannoun (Part 2):** Finite element modeling and structural design for several underground rectangular water tanks. In addition to pump stations and retaining walls. The project was funded by UNRWA.

Projects in Yamen:

- **Shibam Infrastructure Project:** Finite element modeling and structural design of several under-ground pump stations. The depth of the stations ranges 4-10 m below ground. In addition to elevated rectangular water tank and steel structure hanger. The different structures were analyzed and designed for static, wind and earthquake loads.

Projects in Georgia:

- **Sachkhere Medical Center:**

- Structural design team leader for designing 13000 m² new building. The analysis and design were adopted for static and dynamic loadings.
- Structural renovation and seismic retrofit for 11000 m² of the main old building that was constructed on 1945.

4/1997-7/2001 Consolidated Consultants (CC)-Engineering and Environment, Amman – Jordan.

Civil Engineering Designer in the structure department for several projects; including but not limited to:

- **Abu–Dees Water Treatment Plant:** Structural designer for drying beds, cylindrical tanks and retaining walls.
- **Inspection and Repair of Berths in Aqaba, Jordan:** Assistant Engineer for structural assessment, checking and preparing structural repair drawings and preparing bill of quantities for the repair works. Project value \$12.68 Million, in association with Messrs Rendel Palmer and Tritton, UK.
- **Jordan Pharmaceutical Manufacturing Plant:** Total area was 8500m², with a value of \$10.0 Million. Responsibilities:
 - Structural redesign of some buildings according to new live and vibration loads induced by the mechanical equipment's.
 - Structural designer of small buildings; such as guard building, small tanks and laboratories.
- **Al-Nawafleh Touristic Village:** Total built-up area 13000m² and comprises 104 motel units, and a 780m³ capacity ground water reservoir; project value \$ 6.35 Million. Responsibilities:
 - Structural designer to the reception, administration, employee, and laundry buildings with an area of about 3500m².
 - Structural designer to the retaining walls; height ranging from 3 to 9 meters.
- **Shidiya Railway Stations:** Structural Design for the buildings of shidiya, Gubbya and Khaldi control stations situated at two railway intersections. In association with Messrs: Systra, France.
- **National Center For Diabetes And Endocrine Glands and Genetic Diseases:** The building consisted of a basement and four floors with a total built-up area of 7475m² with a value of \$3.38 Million. Responsibilities:
 - Structural Designer to a designated area of 2500m².
 - Structural Designer Assistant to other parts of the building, such as water tank at the basement floor.
- **El-Beit University:** Structural investigation and reporting on the failure of the roof of the building during construction.
- **The Hashemite University:** Site Engineer from April to September 1998 supervising the construction of the faculty of business at the University, as well as checking all the structural shop-drawings prepared by the contractor.

- **Prince Sultan Cultural Center in KSA:** The project consisted of a theater accommodating an audience of 2000 people, related offices, a library and an outdoor amphitheater with a total built-up area of 13000m². Responsibilities:
 - Structural designer to the concrete part in the theater, related offices and the library.
 - Structural designer assistant to the steel-roof of the theater.
- **ABED HDEDIDOUN Residential Building:** Structural designer to the building which consisted of a basement used as garages and four floors used as small flats, the total area of the building was 1,600m² with a \$0.28 million value.
- **Le-Royal Hotel in Amman:** The project consists of a 39 floors high hotel that includes a commercial center, a recreational center, car parks and the hotel. The total built-up area is around 100,000m² with a value of \$150.0 Million. Responsibilities:
 - Preparing of structural workshop drawings for 10 floors of the building.
 - Preparing a Bill of Quantities for the steel for 10 floors of the building.
- **Development of the Baptism Site:** The project is a park for tourists and pilgrims who tend to visit the biblical land of Wadi Kharrar and the site of Jesu's Baptism. It is a total area of 60Km². Responsibilities:
 - Structural designer to visitors' center consisting of 1-2 story buildings to be used as Bedouin carpet souk, first rate restaurant, Jordan River Center and guest house.
 - Assistant designer to Re-Circulation of water supplies system to the baptism site on Jordan River.

The value of the project \$7.1Million in association with Studio Sonzogni, Italy.

- **Rehabilitation and upgrading of the infrastructure Facilities of Martyr Azmi-Al-Mofti (Al-Husn) Refugee Camp.**
 - Wastewater network designer for the camp, designing and creating profiles for the sewer network, also designing and preparing house connections for about 2500 house. The value of the project \$7.32 Million.
- **Waste Water Collection, Treatment and Effluent Reuse for North Jordan Valley Communities:**
 - Designer for the trunk sewer, creating the profile for the 40km length pipe with diameter ranging between 400 mm to 900mm.
 - Designer for the sewer lines and house connections inside the communities of Wadi-Rayyan, Al-Masharie, Shiekh-Hussien and North Shunch.
 - Team leader working on Wadi-Rayyan, and North Shunch, designing, checking, and preparing drawings.
 - Assistant in preparing the Environmental impact assessment report of the project, and the preparation of the EIA session.
 - Structural designer to nine bridge that support the trunk sewer pipe.

The value of the project \$29 million in association with Messrs: Metcalf and Eddy and Stanley Consultant's.

Scientific Committees:

1. Editor in Jordan Journal for Civil Engineering.
2. Member in committee for research fund for engineering field in ministry of higher education Jordan.
3. Member in Jordan Association Engineers.
4. Member in reviewing committee of the Jordanian code for steel structures (LRDF).
5. Member in the scientific committee of the International Earthquake Engineering Conference (TINEE) held in Dead sea, Jordan.
6. Member in the scientific committee of workshop for seismicity of Jordan and adjacent areas held in Amman, Jordan.
7. Member in committee of improving the structural work in Jordan.

Awards:

1. First prize for supervising the best graduation project in the Civil Engineering Department, Faculty of Engineering in the Hashemite University in 2018.
2. First prize for supervising the best graduation project in Jordan 2009.
3. First prize in the achievement exams for civil engineering department/ The Hashemite University, 2007.

Computer skills

- Engineering graphics programs such as, Micro-station and AutoCAD.
- Structural softwares, such as ANSYS, SAP 2000, ETAB, STAAD pro, Prokon, SAFE.
- Office application softwares, such as Microsoft Word, Microsoft Excel, and Power Point.
- Programming using Fortran 90.

Language Capabilities

- Arabic: Native.
- English: Excellent.