Personal Details

Name:	Hasan Nabil Katkhuda
Date of Birth:	15th January 1975
Nationality:	Jordanian
Address:	Amman, Jordan
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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*."
  GPA: 4.0 out of 4.0
- M.S. Civil Engineering, University of Jordan, Amman, Jordan, 2000.
  GPA: Very Good.
- B.S. Civil Engineering, Jordan University of Science and Technology, Irbid, Jordan, 1997.
  GPA: Very Good. Ranked: 4 out of 91 students.

Academic Experience

2/2005- Present Faculty of Engineering, The Hashemite University.

10/2023- Present Dean of the Faculty of Engineering

Responsibilities include but not limited to:

- Manage the Faculty of Engineering in the Hashemite University. It consists of nine Engineering departments: Civil; Biomedical; Industrial, Electrical; Computer; Mechatronics; Mechanical; Architectural; and Basic Sciences Engineering. The Departments offer eight programs in the B.S.c Level and seven programs in the M.Sc level. The number of PhD faculties is 146, Laboratory technicians /engineers is 41, and administrative staff is 16. The number of students as of academic year 2025/2026 is 4200 students.
- Supervise the preparation of the self-study report for ABET accreditation for all the engineering departments.
- Supervise the ABET visit to the Faculty in December 2023 which led to full accreditation to the all B.Sc programs for another 6 years.
- Propose and implement plans to enhance the students' performance academically and socially.
- Propose and implement plans and budgets towards professional development for the faculty members.
- Propose and implement curriculum modifications to accommodate labor market demands.

- Work on enhancing the world rank of the faculty of Engineering in the Hashemite University.
- Propose and implement plans to encourage the faculty members to perform scientific research and gain financial funds locally and globally.
- Establish the Technical College in the Hashemite University.
- Prepare Memorandum of Agreements with external entities.
- Lead committees in the Hashemite University and outside of the University.
- Act as a committee member in the Hashemite University and outside of the University.
- Work with the Deans Council on the university administrative issues and enhance the university development in all related aspects.

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

Responsibilities Include but not limited to:

- Manage the Civil Engineering Department; 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 on December 2018 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.
- Prepare tender documents for the construction of structural laboratory. In addition to other tender documents for the 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 one in the region that is equipped with the state of art instruments and shaking table similar to the structural Labs in the United States.
- 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- Present Professor, Department of Civil Engineering, The Hashemite University, Zarqa, Jordan.

9/2012-9/2014 Sabbatical and unpaid leave from The Hashemite University, Zarqa, Jordan.
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 Include but not limited to:

- 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.
- Act as 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.

Courses Taught in AURAK:

- Introduction to Engineering
- Statics
- Mechanics of materials
- Sustainability in Engineering
- Structure Analysis
- Structural Steel Design

5/2011- 2/2018 Associate Professor, Department of Civil Engineering, The Hashemite University, Zarqa, Jordan.

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

Courses Taught in the Hashemite University:

- Engineering Drawings (Manual and AutoCAD)
- Statics
- Strength of materials
- Strength of materials lab
- Structure Analysis
- Steel Design
- Computer Application in Structural Engineering
- Introduction to Finite Element Analysis
- Advanced Dynamics of Structures –M.S.c level.
- Graduation Projects
- Master Thesis supervision

8/2001-12/2004 Graduate Student and Teaching Assistant in the Department of Civil Engineering and Engineering Mechanics, The University of Arizona, Tucson.

- 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

Committees for the Hashemite University

- Chairman of the Founding Committee of the Technical college.
- Chairman of the Committee for Establishing Instructions for Intermediate Diploma Degree.
- Chairman of the Committee for Establishing Instructions for Disciplining students.
- Chairman of the Committee for Establishing Instruction for Student completion exam.
- Chairman of the Tender Committee for Construction of Dentistry Clinics.
- Chairman of the Committee for Framework Agreement with Colorado State University-Colorado-USA.
- Chairman of the Committee for Framework Agreement with Edmonds College-Washington State-USA.
- Committee member for Establishing instructions for Academic Departmental performance indicators.
- Committee member for Establishing New Faculty Members Framework System.
- Committee member of Study Plan Committee.
- Committee member of Student Cases Committee.
- Committee member of Technical Committee for Appointment and Promotion.
- Committee member and Chairman for other minor committees within the Faculty of Engineering (2005-2023).

Committees Outside the Hashemite University

- Member of the Committee for establishing New Amra City in Jordan led by the Prime Ministry of Jordan (2026).
- Member in the Academic Committee for Research Funding in the Ministry of Higher Education and Scientific Research (2023-2025).
- Member in the Administrative Committee for Research Funding in the Ministry of Higher Education and Scientific Research led by the Minister of higher Education and Scientific Research (2023-2025).
- Member in the Committee for Research Funding for Engineering Field in the Ministry of Higher Education and Scientific Research (2021-2024).
- Member in the Non-Jordanian Certificate Equivalency Committee at the Ministry of Higher Education and Scientific Research (2022-2023) led by the Minister of higher education and scientific research.
- Member in the Committee of the 5th International Conference on Advanced Research in Applied Science and Engineering, Lisbon, Portugal.
- Member in Jordan Association Engineers.
- Member in Committee of improving the structural work in Jordan (2008).
- Member in the Scientific Committee of workshop for seismicity of Jordan and adjacent areas held in Amman, Jordan (2006).
- Member in the Committee for reviewing the Jordanian code for steel structures (LRDF) (2005-2007).
- Member in the Scientific Committee of the International Earthquake Engineering Conference (TINEE) held in Dead sea, Jordan (2005).

Publications in Refereed Journals

1. Shatarat N., Al-awamleh S., **Katkhuda H**., Al-Hunaiti Y. (2025), " Effect of Basalt Bars and Chopped Basalt Fibers on the Performance of Flexure in Beams " *Innovative Infrastructure Solutions*, 10, 537. DOI: https://doi.org/10.1007/s41062-025-02367-2

2. Abu Sheikh N., **Katkhuda H**., Shatarat N. (2025), "Effect of 3D, 4D, 5D Steel Fibers on the Shear Behavior of Reinforced Concrete Beams Made of Recycled Coarse Aggregate", *Journal of Construction and Building Materials, Elsevier,* vol. 460, 139842. DOI: https://doi.org/10.1016/j.conbuildmat.2024.139842

3. Abdel-Jaber M., Shatarat N., **Katkhuda H.,** Al-Najjar M. (2024) "Punching Shear Capacity of Polystyrene Lightweight Concrete Two-way Slabs", *Engineered Science*, vol. 31. DOI: https://doi.org/10.30919/es1216

4. Alzaben G., Shatarat N., **Katkhuda H.** (2024), "Comparison of capacity curves of reinforced concrete buildings using ADINA moment-curvature element and SAP2000 lumped plasticity model" *Mechanics Based Design of Structures and Machines, an international journal*. *Taylor and Francis*. https://doi.org/10.1080/15397734.2022.2126984

5. Mobideen H., Shatarat N., **Katkhuda H.**, Al-Hunaiti Y., Al-Qaisia A. (2023) "Influence of basalt stirrups and bars on the performance of shear in beams", *Innovative Infrastructure Solutions*, 8, 324. DOI: https://doi.org/10.1007/s41062-023-01290-8

6. Abdel-Jaber M., Shatarat N., **Katkhuda H.**, Alzu'bi H., Al-Nsour R., Alhnifat R., Al-Qaisia A. (2023) "Influence of Temperature on Shear Behavior of Lightweight Reinforced Concrete Beams Using Pozzolana Aggregate and Expanded Polystyrene Beads" *CivilEng*, 4(3), 1036-1051. DOI: https://doi.org/10.3390/civileng4030056

7. Abdel-Jaber M., Abdel-Jaber M.S., **Katkhuda H**., Shatarat N., Sulaiman A., El-Nimri R. (2022) "Influence of Stirrups Spacing on the Strengthening and Rehabilitating of RC T-beams Using Near Surface Mounted Carbon Fiber Reinforced Polymer Strips." *Fibers*, 10(12), 103; https://doi.org/10.3390/fib10120103

8. Shatarat N., **Katkhuda H**., Ayyoub M., Al-Hunaiti Y., AbdelJaber M.S (2022), "Improving Bond Strength of Recycled Coarse Aggregate Concrete Using Chopped Basalt Fibers." *Case Studies in Construction Materials*, *Elsevier*, vol. 17, e01449. https://doi.org/10.1016/j.cscm.2022.e01449

9. Al-zu'bi H., Abdel-Jaber, **Katkhuda H**. (2022), "Flexural Strengthening of Reinforced Concrete Beams with Variable Compressive Strength Using Near Surface Mounted Carbon Fiber Reinforced Polymer Strips [NSM-CFRP]", *Fibers*, 10(10), 86; https://doi.org/10.3390/fib10100086

10. Saleh E., Tarawneh A., **Katkhuda H**. (2022),"A Comprehensive Evaluation of Existing and New Model-identification approaches for Non-destructive Concrete Strength Assessment". *Journal of Construction and Building Materials*, *Elsevier*, vol. 334, 127447. https://doi.org/10.1016/j.conbuildmat.2022.127447

11. Abdel Jaber M.S., Abdel Jaber M., El-Nimri R., **Katkhuda H**. (2022), "Investigation of Flexural Capacity of Normal and Recycled Aggregate Concrete Filled Steel Tubes". *The Open Civil Engineering Journal*, vol. 16. **DOI:** 10.2174/18741495-v16-e2202020

12. Beramly M., Abdel Jaber M., **Katkhuda H**., Shatarat N., Al-diseet M. (2022), "Shear Strengthening and Rehabilitating of Reinforced Concrete T-Beams Using Eternally Carbon Fiber Reinforced Polymer Sheets. *Journal of Applied Engineering Science*. Vol. 20, No. 2, 956, 498-510. https://doi.org/10.5937/jaes0-34390

13. Abdel-Jaber M., Abdel-Jaber M.S., **Katkhuda H**., Shatarat N., El-Nimri R. (2021),"Influence of Compressive Strength of Concrete on Shear Strengthening of Reinforced Concrete Beams with Near Surface Mounted Carbon Fiber-Reinforced Polymer", *Buildings*, 11(11), 563. https://doi.org/10.3390/buildings.11110563

14. 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

15. 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. https://doi.org/10.1016/j.conbuildmat.2020.121285

16. 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. https://doi.org/10.1002/suco.201900054

17. 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

18. **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. **DOI:** 10.18178/ijscer

19. 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

20. 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

21. 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

22. 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

23. 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

24. **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

25. **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

26. **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

27. **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

28. 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

29. 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

30. **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

31. 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

32. **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.

33. 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.

34. 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. DOI: 10.3923/jas.2010.1580.1587

35. **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. DOI: 10.12989/sem.2010.34.3.351

36. **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.

37. 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. https://doi.org/10.1016/j.ijmecsci.2008.12.001

38. **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. DOI: 10.3923/jas.2009.3906.3911

39. 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.

40. 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. https://doi.org/10.1016/j.tafmec.2008.04.007

41. 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.

42. **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. DOI: 10.1002/stc.221

43. **Katkhuda, H**., and Haldar, A. (2006), "Defect Identification under Uncertain Blast Loading," *Optimization and Engineering Journal*, Vol. 7, No. 3, pp. 277-296. https://doi.org/10.1007/s11081-006-9972-9

44. **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. https://doi.org/10.1061/(ASCE)0733-9445(2005)131:6(956)

45. **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.

Papers Currently under review

1. Al-diseet M., Abdel Jaber M., **Katkhuda H**., Shatarat N., "Flexural Strengthening and Rehabilitating of Reinforced Concrete T-Beams Using External CFRP"

2. Abu Rayan M., **Katkhuda H.**, Shatarat N.," Effect of drop beam on the punching shear strength of flat slabs".

On Going Research

1. Effect of 3D, 4D, 5D Steel Fibers on the Flexural Behavior of RC Beams.

2. Rehabilitation And Strengthening The Flexural Capacity Of Lightweight Reinforced Concrete Beams Using Near-Surface Mounted Carbon Fiber Reinforced Polymer [NSM-CFRP] Strips.

3. Flexural Behavior of RC One Way Hollow-Core And Solid Slabs Using Lightweight Aggregate Concrete And a Top Layer Of Ultra-High Performance Concrete.

4. Shear behavior of composite reinforced concrete beams with light weight aggregate concrete core and ultra-high performance concrete skin.

5.Flexural behavior of composite RC beams using lightweight aggregate concrete and ultra-high-performance concrete skin.

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. **(Best Paper Award in the conference)**

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 started a new graduate study program in structural engineering on Fall 2022. I have completed advising five MSc students. However, I was a member committee for Master thesis defense in the University of Jordan for more than 60 master thesis during the last 20 years and until this moment. In addition to being co-advisor for four master thesis:

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.

3- Flexural Strengthening of Reinforced Concrete Beams with Variable Compressive Strength using Near Surface Mounted Carbon Fiber Reinforced Polymer Strips.

4- Effect of Basalt Stirrups on the Shear Behavior of Beams Reinforced with BFRP Bars

5- Flexural Behavior of RC One Way Hollow-Core And Solid Slabs Using Lightweight Aggregate Concrete And a Top Layer Of Ultra-High Performance Concrete.

6- Shear behavior of composite reinforced concrete beams with light weight aggregate concrete core and ultra-high performance concrete skin.

7- Flexural behavior of composite RC beams using lightweight aggregate concrete and ultra-high-performance concrete skin.

My Research Metrics

Google Scholar:
https://scholar.google.com/citations?hl=en&user=F9NURJwAAAAJ&view_op=list_works
Citations: 1565
h-index: 19
i10-index: 31

Scopus:
https://www.scopus.com/authid/detail.uri?authorId=6506565991
ORCID:
https://orcid.org/0000-0003-1002-3292

Research Gate:
https://www.researchgate.net/profile/Hasan-Katkhuda

Reviewer for the following International Journals

Acting as a reviewer for different international journals including but not limited to:

1. Engineering Structures Journal (Elsevier) Q1: 90% percentile, impact factor: 5.582.

2. Construction and Building Materials Journal (Elsevier) Q1: 95% percentile, impact Factor: 7.693.

3. Structural Engineering and Mechanics, An International Journal (Techno press). Q1: 75% percentile, Impact Factor: 2.998.

4. Advances in Concrete Construction, An International Journal (Techno press): Q2.

5. International Journal of Pavement Research and Technology (Springer): Q2: 72% percentile

6. Journal of Materials in Civil Engineering (ASCE): Q1- 79% percentile.

7. Periodica Polytechnica Civil Engineering: Q2 -54% percentile.

8. Journal of Engineering Research (Kuwait University).

9. Alexandria Engineering Journal (Elsevier) Q1: 93% percentile, impact factor: 6.626.

10. Developments in the Build Environment (Elsevier) Q1: 94% percentile, impact factor: 5.563.

11. Journal of Materials Research and Technology (Elsevier) Q1: 86% percentile, impact factor.

12. Heliyon (Elsevier) Q1: 82% percentile, impact factor: 3.776.

13. Journal of Building Engineering (Elsevier) Q1: 98% percentile, Impact Factor: 7.144.

Editor

Editor in Jordan Journal of Civil Engineering (2021-present); Journal funded by Ministry of Higher Education, Jordan. **https://jjce.just.edu.jo/home/editorial_board.php**

Awards

1. Best Paper Award in the *6th International Conference on Civil and Urban Engineering (ICCUE 2019),* Leuven, Belgium.

   Paper:
   Katkhuda H., Shatarat N., and AL-Rakhameen A.," Improving the Torsional Capacity of Reinforced Concrete Beams with Spiral Reinforcement".

2. First prize for supervising the best graduation project in the Civil Engineering Department, Faculty of Engineering in the Hashemite University in 2018.

3. First prize for supervising the best graduation project in Jordan 2009.

4. First prize in the achievement exams for civil engineering department/ The Hashemite University, 2007.

Industry Experience

2/2005- 1/2010 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 m^2 new building. The analysis and design were adopted for static and dynamic loadings.
  - Structural renovation and seismic retrofit for 11000 m^2 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 8500m^2, 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 13000m^2 and comprises 104 motel units, and a 780m^3 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 3500m^2.
  - 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 7475m^2 with a value of $3.38 Million. Responsibilities:
  - Structural Designer to a designated area of 2500m^2.
  - 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 13000m^2. 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 1,600m^2 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 100,000m^2 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 60Km^2. 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 Sonzongni, 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 Shuneh.
  - Team leader working on Wadi-Rayyan, and North Shuneh, 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.

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.