# Hasan Nabil Katkhuda

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**Personal Information:** Born in Amman-Jordan on 1975, Citizen of Jordan, 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.

## Experience

### Academic Experience

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

**9/2012-9/2014 (Sabbatical and unpaid leave from HU)**
Founding Chair of Civil and Infrastructure Engineering Department, American University of Ras AlKhaimah (AURAK), Ras AlKhaimah, UAE.
Advisor to the president for campus development, American University of Ras AlKhaimah (AURAK), Ras AlKhaimah, UAE.

*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.
- Establish of laboratories for 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 outcome 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
- Structural Mechanics
- 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.**

- 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**

- Health assessments and damage detections
- Improving the properties of concrete
- Structural dynamics
- System identification
- Finite element analysis
- Optimization

## Publications

### Refereed Journals:

- **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

- 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

- 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

- 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

- **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.

- Hanayneh B., Shatarat N., and **Katkhuda H**., "Improving Durability of Concrete to Phosphoric Acid Attack", *Jordan Journal of Civil Engineering,* Volume 6, No. 1, pp. 68-82, 2012.

- **Katkhuda H**., Dwairi H., and Shatarat N. "System Identification of Steel Framed Structures with Semi-rigid Connections", *Structural Engineering and Mechanics, Techno press*, Volume 34, Number 3, pp. 351-366, 2010.

- **Katkhuda H**., Hanayneh B. and Shatarat N. "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, 2010.

- Shatarat N., Hanayneh B. and **Katkhuda H** "An Analytical Approach of the Behavior of Fiber Reinforced High Shrinkage Materials", *Journal of Applied Sciences,* Volume 10, No. 15, pp. 1580-1587, 2010.

- Shatarat N., Al-Sadder S., **Katkhuda, H**., Qablan H. and Shatnawi A. "Behavior of a Rhombus Frame of Nonlinear Elastic Material under Large Deflection",

*International Journal of Mechanical Sciences*, *Elsevier*, (51), pp. 166-177, 2009.

- **Katkhuda, H**., Shatarat N. and Qablan H. "Damage Detection at Element Level in Structures with Different Support Conditions", *Journal of Applied Sciences*, Volume 9, No.21, pp. 3906-3911, 2009.

- Husam Al Qablan, **Hasan Katkhuda** and Hazim Dwairi, "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, 2009.

- Haldar A., Martinez-Flores, R., and **Katkhuda, H**., "Crack Detection in Existing Structures Using Noise-Contaminated Dynamic Responses", *Theoretical and Applied Fracture Mechanics Journal*, *Elsevier*, (50), pp. 74-80, 2008.

- **Katkhuda, H**., and Haldar, A., "A Novel Health Assessment Technique with Minimum Information," *Structural Control and Health Monitoring Journal*, Vol. 15, No. 6, pp. 821-838, 2008.

- **Katkhuda, H**., and Haldar, A., "Defect Identification under Uncertain Blast Loading," *Optimization and Engineering Journal*, Vol. 7, No. 3, pp. 277-296, 2006.

- **Katkhuda, H**., Flores, R.M., and Haldar, A., "Health Assessment at Local Level With Unknown Input Excitation," *Journal of the Structural Engineering, ASCE*, Vol. 131, No. 6, pp. 956-965, June, 2005.

## **Industry Experience**

**4/1997-7/2001**
**Consolidated Consultants (CC) -Engineering and Environment, Amman – Jordan.**
Structural Designer.
Examples of designed projects:

- o Abu–Dees Water Treatment Plant.
- o Inspection and Repair of Berths in Aqaba, Jordan.
- o Jordan Pharmaceutical Manufacturing Plant.
- o Al-Nawafleh Touristic Village.
- o Shidiya Railway Stations.
- o National Center for Diabetes And Endocrine Glands and Genetic Diseases.
- o Prince Sultan Cultural Center.
- o Development of the Baptism Site.
- o Rehabilitation and upgrading of the infrastructure Facilities of Martyr Azmi-Al-Mofti (Al-Husn) Refugee Camp.

       o  Waste Water Collection, Treatment and Effluent Reuse for North Jordan Valley Communities.

## Scientific Committees:

1. Member in Jordan Association Engineers.
2. Member in reviewing committee of the Jordanian code for steel structures (LRDF).
3. Member in the scientific committee of the International Earthquake Engineering Conference (TINEE) held in Dead sea, Jordan.
4. Member in the scientific committee of workshop for seismicity of Jordan and adjacent areas held in Amman, Jordan.
5. Member in committee of improving the structural work in Jordan.

## Awards:

1. First prize for supervising the best graduation project in Jordan 2009.
2. 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.