

Ghassan Almasabha, PhD

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### **EDUCATION:**

- **The University of Texas at Arlington**
  - Post-Doctoral Research Associate (September 2019 – January 2020)
  - Ph.D. in Structural Engineering (2014 – August 2019) (GPA: 4.0/4.0)  
Dissertation Title: *A New Design Methodology of Squat Shear Walls for Ductile Seismic Behavior and Predictable Shear Strength.*  
Chair: Shih-Ho Chao, Ph.D., PE
- **The University of Jordan (2012 – 2014)**
  - M.Sc. in Structural Engineering (Excellent Rating)  
Thesis Title: *Effect of selection of Type, shape, and other properties on the behavior of reinforced concrete culverts subjected to high soil filling depth.*  
Chair: Anis Shatnawi, PhD
- **Al Hussein bin Talal University (2008 – 2012)**
  - B.Sc. in Civil Engineering (Excellent Rating)

### **EXPERIENCE:**

- **Assistant Professor (January 2020 – present)**  
Civil Engineering Department, The Hashemite University – Jordan
- **Graduate Teaching Assistant (GTA)- UT Arlington TX, (2016 – 2019)**
  - ✓ GTA on the following classes: Prestressed Concrete Design, Reinforced Concrete Design, Engineering Materials, Engineering Materials lab, Structural Timber Design, Advanced Structural Analysis.
  - ✓ Assist professors in teaching classes, proctoring exams, grading homework and term projects.
  - ✓ Develop and design the syllabus, lab tests, examinations, and fieldwork plans.

### **AREAS OF INTEREST:**

1. Disaster resilient structures.
2. Large- to full-scale experimental testing of reinforced concrete shear walls.
3. Steel members/frames especially eccentrically braced frames (EBFs).
4. Finite Element Modeling of Macro/Microstructures and Engineered Cementitious Composites.
5. Design and analysis of steel and concrete culverts.

### **PROFESSIONAL SKILLS:**

- Texas EIT 61293
- Advanced FEA concepts including material, geometrical and contact nonlinearities.
- FEA tools (ABAQUS, ANSYS, CANDE-2013 and Perform 3D).
- AutoCAD, RISA 2D and RISA 3D.
- Large scale experimental techniques including instrumentations using Vishay software and MTS testing tools (100-kip and 330-kip actuators)

## **PUBLISHED WORK**

1. Tarawneh A., Dwairi H., Almasabha G., and Majdalaweyh S., (2021). Effect of FRP-Compression Reinforcement in Columns Subjected to Concentric and Eccentric Loading. *ACI Structural Journal*, V. 118, No. 3. doi: 10.14359/51730526
2. Tarawneh A., Almasabha G., Alawadi R., and Tarawneh M., (2021). Innovative and Reliable Model for Shear Strength of Steel Fibers Reinforced Concrete Beams. *Structures*. V. 32. Doi: 10.1016/j.istruc.2021.03.081
3. Almasabha G. (2021). “Strut and Tie Model to Estimate the Shear Strength of Reinforced Concrete Squat Walls”. *17th World Conference on Earthquake Engineering, Sendai, Japan*.
4. Almasabha G. and Chao S. (2020). “A New Design Approach Toward A Ductile Reinforced Concrete Squat Wall”. *17th World Conference on Earthquake Engineering, Sendai, Japan*.
5. Shatnawi, A., Almasabha, G., & Tarawneh, B. (2017). Structural behavior of concrete box culverts under deep burial. *Journal of Pipeline Systems Engineering and Practice*, 8(4) doi:10.1061/(ASCE)PS.1949-1204.0000291.

## **FUNDED PROJECTS:**

“Effect of aspect ratio and steel fiber volume ratio on the shear behavior of lightweight reinforced concrete beams”. \$11,000. Principal Investigator. Sponsored by The Hashemite University, Jordan. Award period: 28/3/2021 to 28/6/2022.

## **COURSES TAUGHT**

- **Design of Reinforced Concrete (III)** (Senior Undergraduate): Introduction to discontinuity regions; strut-and-tie models; design of deep beams and Corbels; design of beam-column joints; design of ledge girders; design of retaining walls; design of fluid reservoirs; design of staircases and design of slab-on-grade.
- **Structural Analysis for Architectural Students** (Junior Undergraduate): Structural forms, types of supports and determinacy, reactions, determinate structures, plane trusses, shear and moment diagrams for beams and frames, deflections, analysis of indeterminate structures using force method and analysis of solid and ribbed slabs.
- **Engineering Mechanics** (Sophomore Undergraduate): Introduction to statics, Scalars and Vectors, Forces, Rectangular Components, Moment, Resultant, Rigid bodies, Equilibrium, Structural Analysis, Center of Mass and Centroids, Moment of inertia, Stresses and Strains, properties of materials, Internal Forces, combined stresses, Deformation of Structures, Deflection.
- **Statics** (Sophomore Undergraduate): Vectors, force systems (2D and 3D), equilibrium of particles and rigid bodies (2D and 3D), structures (trusses, cables, frames, and machines), distributed forces (centroids and centers of mass), fluid pressure, internal forces (shearing force and bending moment diagrams), friction, moment of inertia.

## **HONORS AND AWARDS:**

- Chi Epsilon, The National Civil Engineering Honor Society (2018).
- Outstanding Graduate Student Award, Civil Engineering Department, UT Arlington TX (2017 and 2018).

- Civil and Environmental Engineering STEM Doctoral Fellowship, UT Arlington TX (2016-2019).
- DNE Kelcy Warren Scholarship (2018-2019).
- Civil Engineering Scholarship, UT Arlington TX (2015-2016).

**PROFESSIONAL MEMBERSHIPS:**

1. American Concrete Institute (ACI) Committee 374, Performance-Based Seismic Design of Concrete Buildings
2. American Concrete Institute (ACI) Committee 544 Fiber Reinforced Concrete
3. American Concrete Institute (ACI) Committee 440, Fiber-Reinforced Polymer Reinforcement
4. American Society of Civil Engineering (ASCE).
5. Structural Engineering Institute – Graduate Student Chapter, UT Arlington TX.
6. American Concrete Institute (ACI).

**Services:**

1. Paper reviewer for the *ACI Structural Journal*.
2. Paper reviewer for the *Journal of Construction Innovation: Information, Process, Management*.
3. Paper reviewer for the *Journal of Engineering Research*.
4. Paper reviewer for the *ACI Fall Convention 2021 - Atlanta, GA: Durability, Service Life, and Long-Term Integrity of Concrete Materials, Bridges, and Structures*