# DR. QUSAY AL-KASEASBEH

**Associate Professor of Civil Engineering**
**Vice Dean, Deanship of Academic Affairs – Military Wing**
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Google Scholar | Scopus | ORCID | ResearchGate | Academic Web Profile

## PROFESSIONAL PROFILE

Associate Professor in the Department of Civil and Environmental Engineering at Mutah University, Jordan, currently serving as Vice Dean at the Deanship of Academic Affairs – Military Wing. Holds a Ph.D. in Civil Engineering from the University of North Dakota (2019) and an M.Sc. from North Dakota State University (2016). Founder and head of the Materials Science & Energy Lab (MSEL), the first research-focused laboratory at Mutah University and in southern Jordan, established through a $250,000 grant. Prior to academia, worked as a Structural Design Engineer at Wells Concrete, USA.

## EDUCATION

**Ph.D. in Civil Engineering (Minor: Steel Structures)** — **May 2019**
*University of North Dakota, ND, USA (GPA: 4.0/4.0)*

**M.Sc. in Civil Engineering (Minor: Steel Structures)** — **May 2016**
*North Dakota State University, ND, USA (GPA: 4.0/4.0)*

**B.Sc. in Civil Engineering** — **Jan 2013**
*Mutah University, Karak, Jordan (GPA: 3.72/4.0)*

**High School Certificate (Scientific Stream)** — **Aug 2008**
*Ayy Secondary School, Karak, Jordan (GPA: 92.1/100)*

## ACADEMIC LEADERSHIP & ADMINISTRATIVE ROLES

*Mutah University, Karak, Jordan*

- **Vice Dean** – Deanship of Academic Affairs, Military Wing — **2026 – Now**
- **Head, Scientific Majors Dept.** – Deanship of Academic Affairs, Military Wing — **2025 – 2026**
- **Principal Investigator** – MSEL / Mutah University research project ($250,000) — **2022 – 2026**
- **CEE Department Representative** in the Engineering College Council — **2022 / 2023**
- **Engineering College Representative** in the Mutah University Council — **2021 / 2022**

## TEACHING EXPERIENCE

**Associate Professor / Assistant Professor** — **Aug 2019 – Present**
*Mutah University, Karak, Jordan*

Assistant Professor (Aug 2019 – Sep 2024); promoted to Associate Professor (Sep 2024).

***Courses:*** *Steel Structures, Structural Analysis, Statics, Engineering Economy, CAD in Engineering, Numerical Methods, Applied Fluid Mechanics, Engineering Drawing, Surveying Lab 1, Construction Materials Lab, Civil Engineering Materials, and Senior Design.*

- Teaching, curriculum development, and student mentoring and advising.
- Research, service and committee work, and professional development.

**Part-Time Instructor** — **Oct 2021 – Feb 2022**
*Tafila Technical University, Tafila, Jordan*

- Taught Steel Structures; developed course materials and assessed student performance.

**Grader & Tutor** **2016 – 2019**
*University of North Dakota, Grand Forks, ND, USA*

- Supported Mechanics of Materials, Steel Design, Structural Mechanics, Dynamics, Statics, and Computer Applications: prepared course materials, graded assignments, and tutored students.

**Grader & Tutor – Arabic Language** **Jan – May 2016**
*North Dakota State University, Fargo, ND, USA*

- Supported Beginning Arabic I & II, leading conversation and group activities.

## PROFESSIONAL ENGINEERING EXPERIENCE

**Wells Concrete** **ND, USA**
***Design Engineer (Part-Time)*** *Aug 2018 – May 2019*

- Designed and checked precast concrete–steel connections and performed structural calculations.

***Summer Engineering Intern*** *May – Aug 2018*

- Improved processes and SOPs, and investigated product and installation issues on site.

**Shayyar & Eng. Language Construction Companies** **Amman, Jordan**
***Civil Engineer*** *Jan 2013 – Jan 2014*

- Served as Field Engineer, coordinating design, procurement, site schedules, and labor.

## RESEARCH INTERESTS

- Thin-Walled Steel Structures
- Seismic Performance of Steel Structures
- Structural Fire Engineering
- Corrosion and Coatings
- Advanced Computational Structural Analysis

## RESEARCH GRANTS

**Materials Science & Energy Lab (MSEL) Establishment** **2021**
*Deanship of Scientific Research, Mutah University* *$250,000 · 4.5 years*

## HONOURS, AWARDS & SCHOLARSHIPS

- **"Best Graduate Paper" Award** – 6th IAJC International Conference, Orlando, Florida, USA (2018).
- **Graduate Studies Scholarship** –scholarship from Mutah University for graduate studies.
- **Army Scholarship** – for undergraduate studies at Mutah University.

## PROFESSIONAL DEVELOPMENT & TRAINING

**Mutah University Training Programs** **Sep – Oct 2023**
*Karak, Jordan*

Academic Leadership; Development of Experiential Educational Material; Research and Scientific Research Project Preparation; Modern Statistical Methods; E-learning.

**Entrepreneurship and Innovation** **Mar 2023**
*Orange, Jordan*

Innovation, advanced entrepreneurship, and change management.

**Virtual Learning Environments (12 hrs) & E-Learning Design (15 hrs)** **Oct – Nov 2021**
*Queen Rania Teacher Academy (QRTA), Jordan*

**Teaching with Technology Seminar (28 hrs)** **May 2017**
*ND, USA*

Active learning, assessment, course management and design, grading, and lecture preparation.

## INSTITUTIONAL SERVICE – MUTAH UNIVERSITY

- **Committee Head**, Accreditation (ABET)
- **Member**, Students Council Elections 2024
- **Member**, Cultural and Social Committee
- **Member**, Course Equivalency Committee
- **Member**, Distance Education Committee
- **Member**, Quality Control Committee
- **Member**, CEE Department Labs Development Committee

## PEER REVIEW ACTIVITIES

**Reviewer for:** ASCE Journals; Engineering Structures (Elsevier); Structures (Elsevier); Results in Engineering (Elsevier); Innovative Infrastructure Solutions (Springer); KSCE Journal of Civil Engineering (Springer); Advances in Civil Engineering (Hindawi); Steel and Composite Structures (Techno Press); MDPI Journals (Fire, Applied Sciences, Sensors, Processes); International Structural Engineering and Construction Conference.

## TECHNICAL SKILLS

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|---|---|
| **Analysis & FEA** | ABAQUS, ANSYS, SAP2000, RISA-3D, ENERCALC, Mathcad |
| **Drafting & Design** | AutoCAD, 3ds Max, Bluebeam Revu |
| **Teaching Platforms** | Moodle, Canvas, Blackboard, Honorlock |
| **Productivity** | MS Office (Word, Excel, PowerPoint, Outlook) |

## PROFESSIONAL MEMBERSHIPS

- American Society of Civil Engineers (ASCE)
- Structural Engineering Institute (SEI)
- American Institute of Steel Construction (AISC)
- Canadian Society for Civil Engineering (CSCE)
- Jordan Engineers Association (JEA)

## PUBLICATIONS

### Journal Articles

[1] Al-Qaralleh, M., **Al-Kaseasbeh, Q.**, & Chung, D. D. L. (2026). "First report of the effect of plastic deformation on the inductance and piezoinductance of a material, including the contrast with the effect of elastic deformation". Materials Research Bulletin *(Submitted)*.

[2] **Al-Kaseasbeh, Q.** (2026). "Bidirectional cyclic behavior of graded-thickness corrugated steel columns," Results in Engineering *(Submitted)*.

[3] **Al-Kaseasbeh, Q.** (2026). "Thermal–Structural Behavior of GCFS Columns under Hydrocarbon Fire," Modeling MDPI *(Submitted)*.

[4] **Al-Kaseasbeh, Q.** (2026). "Fire Performance of Uniform and Graded Thin-Walled Square Steel Columns". Journal of Applied Science and Engineering, 24(4).

[5] Al-Qaralleh, M., **Al-Kaseasbeh, Q.**, & Chung, D. D. L. (2026) "Inductance-dominant impedance of steel wire rope and its change upon elastic tension, with relevance to strain sensing," Sensors and Actuators A: Physical 403, 117685. doi:10.1016/j.sna.2026.117685

[6] Alrwashdeh, S. S., **Al-Kaseasbeh, Q. A.**, Al-Qaralleh, M., & Al-Falahat, A. A. M. (2025). "Recycling of materials industrial waste into a new composite alloy using sintering technique". Results in Engineering, 104975.

[7] **Al-Kaseasbeh, Q.** (2024). "Investigating the fire resistance of corrugated steel columns". Results in Engineering, 21, 101687.

[8] Albarram, A., & **Al-Kaseasbeh, Q.** (2024). "Analysis of perforated corrugated steel columns subjected to bilateral cyclic loading". International Journal of Protective Structures, 20414196241235321.

[9] **Al-Kaseasbeh, Q.**, Al-Qaralleh, M., Mueller, T., Rawlinson, T. A., Riding, K. A., & Ferraro, C. C. (2024). "Numerical Analysis of At-Grade Crossing Rail Structure". Results in Engineering, 22, 102275.

[10] **Al-Kaseasbeh, Q.** (2023). "Analysis of hydrocarbon fire-exposed cold-formed steel columns". Results in Engineering, 20, 101400.

[11] T.K. Mueller, **Al-Kaseasbeh, Q.**, M. Al-Qaralleh, T.A. Rawlinson, K.A. Riding, C.C. Ferraro (2023). "Analysis of concrete tub at-grade railroad crossing by field instrumentation", Case Stud. Constr. Mater. 19.

[12] **Al-Kaseasbeh, Q.**, & Al-Qaralleh, M. (2023). "Valorization of hydrophobic wood waste in concrete mixtures: Investigating the micro and macro relations". Results in Engineering, 17, 100877.

[13] Albarram, A., and **Al-Kaseasbeh, Q.** (2023). "Performance of Corrugated-Plate-Shaped Bridge Piers under Uniaxial Loading". KSCE Journal of Civil Engineering 2023, 1–12.

[14] **Al-Kaseasbeh, Q.**, & Albarram, A. (2022). "Numerical evaluation of seismic performance of corrugated-plate shaped steel tubes". Journal of Applied Engineering Science, 20(2), 315-320.

[15] **Al-Kaseasbeh, Q.**, and Mamaghani, I. H. P. (2020). "Thin-Walled Steel Stiffened Square Box Columns with Uniform and Graded Thickness under Bidirectional Cyclic Loading". Engineering Structures, 219, 110919.

[16] **Al-Kaseasbeh, Q.**, and Mamaghani, I. H. P. (2019). "Buckling strength and ductility evaluation of thin-walled steel stiffened square box columns with uniform and graded thickness under cyclic loading". Engineering Structures, 186, 498–507.

[17] **Al-Kaseasbeh, Q.**, and Mamaghani, I. H. P. (2019). "Design and Cyclic Elastoplastic Analysis of Graded Thin-Walled Steel Tubular Columns with Enhanced Strength and Ductility". International Journal of Modern Engineering (IJME), 19(1), 30–36.

[18] **Al-Kaseasbeh, Q.**, and Mamaghani, I. H. P. (2019). "Thin-Walled Steel Tubular Circular Columns with Uniform and Graded Thickness under Bidirectional Cyclic Loading". Thin-Walled Structures, 145, 106449.

[19] **Al-Kaseasbeh, Q.**, and Mamaghani, I. H. P. (2018). "Buckling Strength and Ductility Evaluation of Thin-Walled Steel Tubular Columns with Uniform and Graded Thickness under Cyclic Loading". Journal of Bridge Engineering, 24(1), 04018105.

[20] **Al-Kaseasbeh, Q.**, Lin, Z., Wang, Y., Azarmi, F., and Qi, X. (2018). "Electrochemical Characterization of Steel Bridge Welds under Simulated Durability Test". Journal of Bridge Engineering, 23(10), 04018068.

[21] Lin, Z., Azarmi, F., **Al-Kaseasbeh, Q.**, Azimi, M., and Yan, F. (2015). "Advanced Ultrasonic Testing Technologies with Applications to Evaluation of Steel Bridge Welding - An Overview". Applied Mechanics and Materials, 727–728, 785–789.

## Conference Papers

[1] **Al-Kaseasbeh, Q.** (2021). "Comparative numerical study of circular-shaped steel tubes subjected to cyclic horizontal loading". In Lecture Notes in Civil Engineering (Vol. 110, pp. 167–175). Springer, Singapore.

[2] **Al-Kaseasbeh, Q.**, and Mamaghani, I. H. P. (2019). "Thin-Walled Steel Tubular Columns with Uniform and Graded Thickness under Cyclic Loading". In Interdependence Between Structural Engineering and Construction Management. Chicago, Illinois.

[3] **Al-Kaseasbeh, Q.**, and Mamaghani, I. H. P. (2019). "Performance of Thin-Walled Steel Tubular Circular Columns with Graded Thickness under Bidirectional Cyclic Loading". Structures Congress 2019. Orlando, FL: American Society of Civil Engineers, P. 1-10.

[4] **Al-Kaseasbeh, Q.**, and Mamaghani, I. H. P. (2018). "Design and Cyclic Elastoplastic Analysis of Graded Thin-Walled Steel Tubular Columns with Enhanced Strength and Ductility". In 6th IAJC International Conference. Orlando, Florida. ("Best Graduate Paper" Award).

[5] **Al-Kaseasbeh, Q.**, and Mamaghani, I. H. P. (2018). "Buckling Strength and Ductility Evaluation of Thin-Walled Steel Tubular Columns Under Cyclic Loading". In 10th International Conference on Short and Medium Span Bridges. Quebec City, Canada.

[6] Lin, Z., Yan, F., Azimi, M., Azarmi, F., and **Al-Kaseasbeh, Q.** (2015). "A Revisit of Fatigue Performance Based Welding Quality Criteria in Bridge Welding Provisions and Guidelines". In 2015 International Industrial Informatics and Computer Engineering Conference (pp. 2042–2046). Atlantis Press.