

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 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) <i>University of North Dakota, ND, USA (GPA: 4.0/4.0)</i>	May 2019
M.Sc. in Civil Engineering (Minor: Steel Structures) <i>North Dakota State University, ND, USA (GPA: 4.0/4.0)</i>	May 2016
B.Sc. in Civil Engineering <i>Mutah University, Karak, Jordan (GPA: 3.72/4.0)</i>	Jan 2013
High School Certificate (Scientific Stream) <i>Ayy Secondary School, Karak, Jordan (GPA: 92.1/100)</i>	Aug 2008

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 <i>Mutah University, Karak, Jordan</i> Assistant Professor (Aug 2019 – Sep 2024); promoted to Associate Professor (Sep 2024). Courses: <i>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.</i> - Teaching, curriculum development, and student mentoring and advising. - Research, service and committee work, and professional development.	Aug 2019 – Present
Part-Time Instructor <i>Tafila Technical University, Tafila, Jordan</i> Taught Steel Structures; developed course materials and assessed student performance.	Oct 2021 – Feb 2022

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

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.