

Khalid Ghuzlan

**Professor of Civil Engineering
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Google Scholar: <https://scholar.google.com/citations?hl=en&user=II90yNYAAAAJ>
Scopus: <https://www.scopus.com/authid/detail.uri?authorId=7801499114>
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EDUCATION

University of Illinois at Urbana-Champaign, Illinois Sep 1996 – Aug 2001

- **Ph. D.** in Civil Engineering.
- GPA: 3.81/4.0
- Research Areas: Pavement Design and Analysis, Pavement Maintenance and Rehabilitation, Pavement Materials and behavior.
- Dissertation Title: Fatigue Damage Analysis in Asphalt Concrete Mixtures Based Upon Dissipated Energy Concepts.

Jordan University of Science & Technology, Irbid-Jordan Sep 1993 – April 1996

- **M.Sc.**, in Civil Engineering.
- GPA: 85.2/100
- Emphasis Areas: Maintenance and Rehabilitation, Pavement Design and Analysis.
- Dissertation Title: A Stereometric Knowledge-Based System for Maintenance of Street Network in Urban Areas.

Jordan University of Science & Technology, Irbid-Jordan Sep 1988 – Jun 1993

- **B.S.**, in Civil Engineering.
- 5-years program.

PROFESSIONAL CERTIFICATIONS

- Engineer-In-Training (E.I.T.) Examination, 8-hours exam, Certificate No.114446, California, June 2002.

TEACHING EXPERIENCE

Professor of Civil Engineering, Founder, Department Head
Civil Engineering Department – Ajman University, United Arab Emirates (UAE)
July 2021 – Current

Associate Professor of Civil Engineering, Founder, Department Head
Civil Engineering Department – Ajman University, United Arab Emirates (UAE)
January 2018 – July 2021

Associate Professor of Civil Engineering
Civil Engineering Department - Jordan University of Science and Technology
August 2014 – January 2018

Assistant Professor of Civil Engineering
Civil Engineering Department - Jordan University of Science and Technology
August 2008 – August 2014

Classes:

Jordan University of Science and Technology:

Transportation Engineering	Traffic Engineering
Surveying	Surveying Laboratory
Pavement Materials and Design I	Pavement Design II
Highway Maintenance	
Transportation Facility Design	
Highway Materials (Master level)	

Ajman University:

Introduction to Civil Engineering
Civil Engineering Drawing
Surveying I (Civil Engineering)
Civil Engineering Materials
Highway Design
Transportation Engineering
Structural Analysis for Architects
Structural Design for Architects
Building Materials
Impact of Technology on Society & Built Environment
Surveying for Architects

Ministry of Transportation, Amman - Jordan

Feb 2010

- Developed a training class about the *Air, Water and Land Transportation*. The class is six days long and includes power point presentations and software demonstration. It was delivered directly to the engineers and different interested personnel from different agencies, including the Ministry of Transportation, Aviation Authority, South Railroad Authority and Marine and Ports Authority.

**California Department of Transportation (Caltrans),
Office of Pavement Rehabilitation, Sacramento – California**

Dec 2004 – May 2005

- Developed a training class regarding the *Caltrans Flexible Pavement Rehabilitation Design Method*. The class is three days long and includes power point presentations in the first two days and a practical workshop in the third day. It was delivered directly to the District's Material Engineers and their staff (the class was offered three times and may be offered again upon request, Caltrans Code no. 100051).

Part Time Faculty, California State University, Sacramento (CSUS)

Sep 2003 – Jan 2004

Transportation Facility Design (Senior Course)

- Prepare and present lectures materials to the students. Prepare homework, project and a list of term paper topics to help the students achieve the objectives of this course. Prepare tests, examinations and quizzes such that these are a learning tool for the students that also provides the instructor with the means of evaluating their progress based on their performance.

Teaching Assistant, Jordan Univ. of Science & Technology, Jordan

Jan 1994 – Jan 1996

- Bituminous Materials (senior course): give lectures, demonstrate lab experiments, supervise and grad lab reports.
- Land Surveying (junior course): give lectures, demonstrate lab experiments, supervise and grad lab reports, and supervise computer-based analysis project.

WORKING EXPERIENCE

**California Department of Transportation (Caltrans),
Division of Research and Innovation (DRI), Sacramento – California**

May 2005 – Aug 2008

- Project Manager for the study “Evaluation of the Crack, Seat and Overlay Method in the State of California”, since February 2006.
- Evaluate the Guide for Mechanistic-Empirical Design of New and Rehabilitated Pavement Structures (AASHTO 2002).

- Evaluate and participate in the development of the California Mechanistic-Empirical pavement design and analysis procedures (CalME and Calback software).
- Implement the pavement research results and the technology gained from various Caltrans research projects through incorporation into Caltrans specifications and common engineering practices.
- Provide technical expertise in the areas of Life Cycle Cost Analysis (LCCA) and Performance of Rubberized Asphalt Concrete Mixtures to the Office of Pavement Design and to the Office of Flexible Pavement respectively.
- Review and approve reports and technical memorandums submitted by the University of California Berkeley and Davis (UCB & UCD) or submitted by other universities/companies.

**California Department of Transportation (Caltrans),
Office of Pavement Rehabilitation, Sacramento – California**

Oct 2002 – May 2005

- Develop rehabilitation strategies for deteriorated freeways and highways for the entire State of California using standard and non-standard design procedures.
- Update and revise design manuals and test methods pertaining to rehabilitation of pavements using both, classical design methods and state-of-the-art empirical-mechanistic approaches.
- Design experimental evaluation programs to investigate pavement recycling options.
- Participate in the development of pavement field testing, especially in the area of correlation studies pertaining to deflection equipment.
- Evaluate new computer programs for pavement design, analysis and rehabilitation.
- Participate in panels for evaluation of proposals to contract out projects.

**California Department of Transportation (Caltrans),
Office of Design North Counties, Oakland – California**

Dec 2001 – Oct 2002

- Apply California highway geometric design standards to highway and interchange projects.
- Design highways alignments, profiles, on-ramps and off-ramps.
- Use of several computer programs such as Microstation and CaiCE to perform highway design.

Arcadia Consultants, Irbid, Jordan

Jun 1993 – Jan 1994

- Provide quality control consultation, ensured conformity to plans and specifications and supervised the work at the construction site of a comprehensive school building at Irbid, Jordan.

RESEARCH EXPERIENCE

Graduate Research Assistant, University of Illinois at Urbana-Champaign, IL

Sep 1997 – Sep 2001

- Projects focus: "**Asphalt Concrete Characterization for Performance**", sponsored by Federal Aviation Administration (FAA) and Illinois Department of Transportation (IDOT).
- Developed techniques for fatigue testing.

- Developed an energy-derived / damage-based failure criterion for fatigue testing of asphalt concrete mixtures.
- Developed a fatigue model for asphalt concrete pavements based upon energy concepts.
- Performed statistical modeling of fatigue behavior of asphalt concrete.
- Characterized and evaluated performance of asphalt concrete pavements.

The following are some of the projects with which I have been involved:

- Fatigue and permanent deformation testing and analysis for 36 asphalt concrete mixtures for the municipality of Dubai (UAE). The project was performed jointly with Applied Research Associates Inc. (ARA) and aimed at designing asphalt pavement mixture for performance.
- Fatigue and permanent deformation characterization of 26 asphalt concrete mixtures widely used in the state of Illinois. This project was sponsored by the Illinois Department of Transportation (IDOT).
- Characterization of the asphalt concrete pavement of the National Airport Pavement Testing Facility (NAPTF) in New Jersey. The project included comprehensive testing and analysis of the asphalt concrete mixtures used in the facility. The tests included resilient modulus, fatigue resistance and permanent deformation. The project was sponsored by the Federal Aviation Administration (FAA).

Graduate Research Assistant, Jordan University of Science & Technology, Jordan

Jan 1994 – Jan 1996

- Developed a knowledge-based system for maintenance and rehabilitation of pavement using the **PAVER system**. The input data for this knowledge base was obtained from a vision system developed specifically for this purpose. The project aimed at development of an automated technique to provide the Pavement Condition Index (PCI) using the developed knowledge based system.

PEER REVIEWED JOURNAL PAPERS

1. Saeed M. Hamdan, Warda K. Awan, **Khalid A. Ghuzlan**, “Enhancing Traffic Accident Severity Prediction Using Artificial Intelligence Techniques”, 2023 24th International Arab Conference on Information Technology (ACIT), Ajman, United Arab Emirates, 2023, pp. 1-6. Ajman, UAE. [doi: 10.1109/ACIT58888.2023.10453808](https://doi.org/10.1109/ACIT58888.2023.10453808). (Published in 20 March 2024).
2. Saeed M. Hamdan, Samer Barakat; Khaled H. Mahfouz, **Khalid A. Ghuzlan**, “Traffic Accident Severity Prediction Model using AI”, Advances in Science and Engineering Technology International Conferences (ASET) Feb. 2023. Dubai, UAE. [10.1109/ASET56582.2023.10180861](https://doi.org/10.1109/ASET56582.2023.10180861)
3. Mohammed W Alani , **Khalid A. Ghuzlan**, Ghazi G. Alkhateeb , Waleed Zeiada, Helal Ezzat “Performance of Bio-Oil Modified Asphalt Binders Containing Warm-mix Additives”, Advances in Science and Engineering Technology International Conferences (ASET), Feb. 2023. Dubai, UAE. [DOI: 10.1109/ASET56582.2023.10180817](https://doi.org/10.1109/ASET56582.2023.10180817)
4. **Khalid A. Ghuzlan**, Ghazi G. AL-Khateeb, Abdulla A. Sharo, and Malak E. Shwaikeh, “Viscoelastic-Based Finite Element Rutting Predictive Models for Asphalt Pavements”, Emergent Materials, December 2022. <https://doi.org/10.1007/s42247-022-00435-2>

5. Al-Khateeb, Ghazi G.; **Ghuzlan, Khalid**; Ismail, Mohammed; Shabib, Ahmad; Naeem, Marwan; Elbaz, Yousef, “Rheological Properties of Cement-Modified Asphalt Binders”, *Frontiers in Built Environment-Construction Materials*, Volume 8, Article 937199, July 2022.
[doi: 10.3389/fbuil.2022.937199](https://doi.org/10.3389/fbuil.2022.937199)
6. Mohammad Ali Khasawneh, **Khalid Ghuzlan**, and Nada Bani Melhem, “Evaluation of Carbon Nanotubes Asphalt Modification using the Superpave Criteria”, *11th International Conference on Key Engineering Materials*, Vol. 902, June 2021. pp 135-143. ISSN: 1662-9795.
7. **Khalid A. Ghuzlan**, Ghazi G. Al-Khateeb and Monther A. Khader, “The Effect of Extended Aging, Modification, Strain Level, and Temperature on the Fatigue Behavior of Asphalt Binders”, *Jordan Journal of Civil Engineering*, Vol. 15, No. 2, Feb. 2021.
8. **Khalid A. Ghuzlan**, Bara' W. Al-Mistarehi and Ahmad S. Al-Momani, “Rutting Performance of Asphalt Mixtures with Gradations Designed Using Bailey and Conventional Superpave Methods”, *Construction and Building Materials Journal*, Volume 261, Nov. 2020, pp. 1-13.
<https://doi.org/10.1016/j.conbuildmat.2020.119941>
9. **Khalid A. Ghuzlan**, Mohammad T. Obaidat, and Mai M. Alawneh. “Cellular-Phone-based Computer Vision System to Extract Shape Properties of Coarse Aggregate for Asphalt Mixtures”. *Engineering Science and Technology, an International Journal*, Volume 22 (3), 2019, pp. 767-776
[DOI:10.1016/j.jestch.2019.02.003](https://doi.org/10.1016/j.jestch.2019.02.003).
10. Mohammad T. Obaidat, **Khalid A. Ghuzlan**, and Bara' W. Al-Mistarehi “Integration of Geographic Information Systems (GIS) and PAVER System Toward Efficient Pavement Maintenance Management System (PMMS)”. *Jordan Journal of Civil Engineering*, Volume 12, No. 3, 2018, pp 449-460.
11. Mohammad T. Obaidat, **Khalid A. Ghuzlan**, and Mai M. Alawneh. “Analysis of Volumetric Properties of Bituminous Mixtures Using Cellular Phones and Image Processing Techniques”. *Canadian Journal of Civil Engineering*, Volume 44 (9), 2017, pp. 715-726 [DOI:10.1139/cjce-2017-0085](https://doi.org/10.1139/cjce-2017-0085).
12. **Khalid A. Ghuzlan**, and Mohammad O. Al Assi. “Sasobit-Modified Asphalt Binder Rheology”. *ASCE Journal of Materials in Civil Engineering*, Volume 29, Issue 9, September 2017, pp 1-7.
[DOI:10.1061/\(ASCE\)MT.1943-5533.0001996](https://doi.org/10.1061/(ASCE)MT.1943-5533.0001996).
13. Ghazi G. AL-Khateeb, **Khalid A. Ghuzlan**, Mohammad Al-Barqawi. “**Effect of Superpave Restricted Zone on Volumetric and Compaction Properties of Asphalt Mixtures**”. *International Journal of Pavement Research and Technology*, Volume 10, Issue 6 November 2017, pp.488-496.
[DOI:10.1016/j.ijprt.2017.03.004](https://doi.org/10.1016/j.ijprt.2017.03.004)
14. **Khalid A. Ghuzlan**, and Obadah S. Ar’ar, “Performance of Warm Asphalt Mixtures Using Sasobit”, *Petroleum Science and Technology Journal*, Volume 34, Issue 14, 2016, pp 1263-1271.
[DOI:10.1080/10916466.2016.1190756](https://doi.org/10.1080/10916466.2016.1190756)
15. **Khalid A. Ghuzlan**, and Mohammad O. Al Assi, “Predicting the Complex Modulus for PAV Aged Asphalt Binder Using a Master Curve Approach for Sasobit Modified Asphalt Binder”, *Jordan Journal of Civil Engineering*, Volume 10, No. 3, 2016, pp 390-402.
16. **Khalid A. Ghuzlan**, Bashar H. Al-Omari, Mohammad A. Khasawneh, “Parking Demand for Residential Apartment Buildings in Jordan”, *ITE Journal*, Volume 86, No. 7, July 2016. pp. 32-36.
17. **Khalid A. Ghuzlan**, Bashar H. Al-Omari, Maha A. Mahmoud, “Effect of Pavement Condition on Multilane Highway Free Flow Speed”, *ITE Journal*, Volume 85, No. 8, August 2015. pp. 31-36.
18. **Khalid A. Ghuzlan**, AL-Khateeb, G., Yazeed Qasem, “Rheological Properties of Polyethylene-Modified Asphalt Binder”, *Athens Journal of Technology & Engineering*, Volume 2, Issue 2, June 2015, pp. 75-89.
19. Bashar H. Al-Omari, **Khalid A. Ghuzlan**, Lina B. Al-Helo, “Modeling Through Traffic Speed at Roundabouts Along Urban and Suburban Street Arterials”, *Journal of the Transportation Research Forum (JTRF)*, Volume 53, No. 2, Summer 2014, pp. 7-19.
20. G. AL-Khateeb, **Ghuzlan, K.A.**, “The combined effect of loading frequency, temperature, and stress level on the fatigue life of asphalt paving mixtures using the IDT test configuration”, *International Journal of Fatigue*, Volume 59, 2014, pp.254-261.

21. Bashar Al-Omari, **Ghuzlan, K.A.**, Hala Hasan, “Traffic Accidents Trends and Characteristics in Jordan”, International Journal of Civil & Environmental Engineering IJCEE-IJENS Vol:13 No:05, October, 2013.
22. **Ghuzlan, K.A.**, G. AL-Khateeb, Abu Damrah, A, “Using oil shale ash waste as a modifier for asphalt binders”, Journal of Material Cycles and Waste Management, Volume 15, Issue 4, 2013. pp 522-529. ISSN: 1438-4957 (Print) 1611-8227 (Online). DOI: 10.1007/s10163-013-0135-8
23. **Ghuzlan, K.A.**, G. AL-Khateeb, “Selection and verification of performance grading for asphalt binders produced in Jordan”, International Journal of Pavement Engineering, Volume 14, Issue 2, 2013. pp. 116-124, <http://dx.doi.org/10.1080/10298436.2011.650697>.
24. **Ghuzlan, K.A.**, G. AL-Khateeb, M. Haddad, “Evaluation of 2008 Traffic Safety Policies in Jordan”, Jordan Journal of Civil Engineering, Volume 6, No. 1, 2012, pp 122-133.
25. Rahim. A., G. Fiegel, **K. Ghuzlan**, “Evaluation Of Transverse Cracks In Cracked, Seated And Overlaid Concrete Pavements”. International Journal of Pavement Research and Technology, Volume: 2, Issue 6, November, 2009.
26. Rahim. A., G. Fiegel, **K. Ghuzlan**, “Evaluation of Fatigue (Alligator) Cracking in the LTPP SPS-6 Experiment”. International Journal of Pavement Research and Technology, July Vol 2, No. 1, Jan 2009. pp26-32
27. Q. Lu, J.M. Signore, P. Ullidtz, I. Basheer & **K. Ghuzlan** " CalBack: New backcalculation software for Caltrans mechanistic-empirical design". Eight International Conference on the Bearing Capacity of Roads, Railways and Airfields, The University of Illinois at Urbana-Champaign, Champaign, Illinois, USA , June 29-July 2, 2009.
28. Qing Lu; Per Ullidtz; Imad Basheer; **Khalid Ghuzlan**, and James M Signore ”CalBack: Enhancing Caltrans Mechanistic-Empirical Design Process with New Backcalculation Software”. Journal of Transportation Engineering of the ASCE, Volume 135, Issue 7, July 2009., pp. 479-488
29. Rahim. A., G. Fiegel, **K. Ghuzlan**, and D. Kuhmann, “Evaluation of IRI for Asphalt Overlays Placed over Cracked and Seated Concrete Pavements”. International Journal of Pavement Engineering, Volume 10 Issue 3, June 2009.
30. Ullidtz, P., J.T. Harvey, **K. Ghuzlan**, B.W. Tsai, B. Steven and C.L. Monismith, "Calibration of Mechanistic-Empirical Models for Cracking and Rutting of New Pavements Using Heavy Vehicle Simulator Tests," *Proceedings, Third International Conference on Accelerated Pavement Testing*, Madrid, Spain, October 2008, 14 pp. (CD only).
31. **Ghuzlan, K.A.**, and S.H. Carpenter, “Analysis of Fatigue Relationship Coefficients in Asphalt Concrete Mixtures.” International Journal of Pavements, Volume 5, Number 1, 2006, pp 25-36.
32. **Ghuzlan, K.A.**, and S.H. Carpenter, “Fatigue Damage Analysis in Asphalt Concrete Mixtures Using the Dissipated Energy Approach”, Canadian Journal of Civil Engineering, Volume 33, 2006, pp. 1-12.
33. S.H. Carpenter, **Ghuzlan, K.A.**, and Shihui Shen, “A Fatigue Endurance Limit for Highway and Airport Pavements”, Transportation Research Record No. 1832, 2003, pp.131-138.
34. **Ghuzlan, K.A.**, and S.H. Carpenter, “Energy-Derived / Damage-Based Failure Criteria for Fatigue Testing”, Transportation Research Record No. 1723, 2000, pp. 141-149.
35. Obaidat, M. T., Al-Suleiman, T. I., and **Ghuzlan, K. A.** “A Sterometric Knowledge Based System for Maintenance of Street Network”, Canadian Journal of Civil Engineering, Volume 25, Number 2, 1998, pp. 220-231.

CONFERENCE TECHNICAL PAPERS:

1. Saeed M. Hamdan, Warda Awan, **Khalid A. Ghuzlan**, “Enhancing Traffic Accident Severity Prediction Using Artificial Intelligence Techniques”, Accepted for publication in the 24th International Arab Conference on Information Technology (ACIT 2023) Dec. 2023. Ajman, UAE. [doi: 10.1109/ACIT58888.2023.10453808](https://doi.org/10.1109/ACIT58888.2023.10453808). (Published in 20 March 2024).

2. Saeed M. Hamdan, Samer Barakat; Khaled H. Mahfouz, **Khalid A. Ghuzlan**, “Traffic Accident Severity Prediction Model using AI”, *Advances in Science and Engineering Technology International Conferences (ASET)* Feb. 2023. Dubai, UAE. [10.1109/ASET56582.2023.10180861](https://doi.org/10.1109/ASET56582.2023.10180861)
3. Mohammed W Alani , **Khalid A. Ghuzlan**, Ghazi G. Alkhateeb , Waleed Zeiada, Helal Ezzat “Performance of Bio-Oil Modified Asphalt Binders Containing Warm-mix Additives”, *Advances in Science and Engineering Technology International Conferences (ASET)*, Feb. 2023. Dubai, UAE. DOI: [10.1109/ASET56582.2023.10180817](https://doi.org/10.1109/ASET56582.2023.10180817)
4. Bashar H. Al-Omari, **Khalid A. Ghuzlan**, Lina B. Al-Helo, “Roundabout Speed Profiles on Major Street Arterials in Jordan”, *The Fourth Jordan International Conference for Roads and Transport*, Amman, Jordan, 12-13 March 2014.
5. **Ghuzlan, K.A.**, AL-Khateeb, G., Yazeed Qasem, “Rheological Properties of Polyethylene-Modified Asphalt Binder”, *3rd Annual International Conference on Civil Engineering* , Athens, Greece, 10-13 June 2013.
6. **Ghuzlan, K.A.**, Bashar Al-Omari, Hala Hasan, “Traffic Accidents Trends and Characteristics in Jordan”, *6th Traffic Safety Conference in Jordan*, Amman, 19-20 November, 2012.
7. **Ghuzlan, K.A.**, AL-Khateeb, G., Abu Damrah, A. “Effect of Oil Shale Ash on Rheological Properties of Asphalt Binders”, *The Fifth Jordanian International Civil Engineering Conference*, Amman, Jordan, 17-19 January, 2012.
8. **Ghuzlan, K.A.** “Challenges Facing Transportation Sector in Jordan”, *Modern Methods and Advances in Structural Engineering and Construction, ISEC-6, Zürich, Switzerland, June 21–26, 2011*.
9. **Ghuzlan, K.A.** “Pavement Maintenance and Rehabilitation, California Experience”, *Ministry of Public Works workshop on Pavement Preservation, Amman, Jordan, April, 2010*.
10. Rahim. A., G. Fiegel, and **K. Ghuzlan**, “Evaluation of Rutting In Cracked, Seated And Overlaid Concrete Pavements”. 10th International Conference on Applications of Advanced Technologies in Transportation, Athens GREECE, May 2008.
11. **Ghuzlan, K.A.**, and S.H. Carpenter, “Traditional Fatigue Analysis of Asphalt Concrete Mixtures”, Presented at the Transportation Research Board meeting January 2003.

PRESENTATIONS AT TECHNICAL MEETINGS

- Mechanistic-Empirical Pavement Design and Analysis Procedures, Division of Research and Innovation, California Department of Transportation, Sacramento, California, Feb 2006.
- Traditional Fatigue Analysis of Asphalt Fatigue Mixtures, Annual Meeting of the Transportation Research Board, Washington D.C., January 2003.
- The Dissipated Energy as a Damage Indicator in Asphalt Concrete Mixtures. Civil Engineering Department at the University of Illinois at Urbana-Champaign, March 2001.
- An Energy Derived/Damage-Based Failure Criteria for Fatigue Testing, Annual Meeting of the Transportation Research Board, Washington D.C., January 2000.
- Dissipated Energy Concepts in Fatigue Analysis of the Asphalt Concrete Mixtures, committee meeting at the Annual Meeting of the Transportation Research Board, Washington D.C., January, 1999.
- Many presentations were made in several meetings and conferences held in the state of California as part of my activities in the California Department of Transportation.

COMPUTER & SOFTWARE SKILLS

- *Pavement Analysis/Performance*: BISAR, EverFE, ME Design Guide (1-37A), CalME and LEDFAA.
- *Pavement Management and Rehabilitation*: PAVER system, Calback and BISDEF.
- *Statistical Analysis*: Statistical Analysis Systems (SAS).
- *Databases Management*: Microsoft Access.
- *Cadd Programs*: Microstation (Caltrans).
- *Highway Design Programs*: Caice (Caltrans).
- *Geographical Information Systems*: ArcGIS.
- *Programming Languages*: Visual Basic, Fortran.
- *General*: Word, Excel, Quattro-pro and PowerPoint.

PROFESSIONAL AFFILIATION and MEMBERSHIP

- Member of several ad hoc committees ranging from faculty promotion to recommendations and staff search, 2022-current, Ajman University.
- Member of Ad-hoc Committee Documents for Promotion 2022-2023, 2023-2024.
- Heart of Ajman Competition, Review Panel. April 25, 2023. Ajman University.
- Member of the department and college councils/ Ajman University (2019-Present).
- Coordinator of Transportation Technical Assistant Program (TAP), since May 2017.
- Transportation Division Coordinator, Fall 2011-Fall 2015.
- Social Committee Coordinator 2011-2012.
- Highway Laboratory Supervisor 2012-2013.
- Monitor the Student Council Election in the Civil Engineering Department 2012.
- Member of the Asphalt Uses Committee, Ministry of Public Works and Housing, since December 2009.
- Member of the Association of Asphalt Paving Technologists (AAPT), 2006 - 2007.
- Member of Professional Engineers in California Government (PECG), 2002-2008.
- Member of American Society of Civil Engineers (ASCE), 1997 - 2008.
- Member of Engineering Association-Jordan, since 1993.
- Member of the Technical Working Group for Evaluation and Implementation of the Mechanistic- Empirical Design and Analysis Procedures for New and Rehabilitated Pavement Structures in the State of California 2005-2008.
- Member of the Pavement Research Group (PRG) in the Division of Research and Innovation, Caltrans, California 2005-2008.
- Caltrans Co-Chair of the AC Interlayer Committee at the California Pavement Preservation Center 2005-2008.
- Reviewer for the Journal of Materials in Civil Engineering of the American Society of Civil Engineers (ASCE), and for the Journal of Testing and Evaluation (of the ASTM).
- Reviewer for the University of California Pavement Research Center Berkeley and Davis (Reports and Technical Memorandums submitted to California Department of Transportation) 2005-2008.

CONTINUING EDUCATION/ WORKSHOPS ATTENDED

- **Workshop on Continuous Quality Enhancement Beyond WSCUC Accreditation**, Ajman, United Arab Emirates, 28 March 2024.
- **Effective Assessment of Courses and Programs**, Ajman, United Arab Emirates, 23 February 2024.
- **AI In Teaching & Learning**, Ajman University and CLICKS, United Arab Emirates, 15 February 2024.
- **Gamification in Education Part 2**, Ajman, United Arab Emirates, 17 January 2024.
- **Designing and Delivering Online Courses**, Qedex, United Arab Emirates, 29 January 2023.
- **Managing Online Meetings**, Qedex, United Arab Emirates, 27 January 2023
- **Essentials of Effective Teaching, Ajman**, Qedex, United Arab Emirates, 27 January 2023.
- **Practical-Presentation-Skills**, Qedex, United Arab Emirates, 24 January 2023.
- **Gamification in Education**, Ajman, United Arab Emirates, 23 January 2023.
- **Converting F2F Courses to Online**, United Arab Emirates, 13 January 2023
- **Writing Appropriate CLOs and their Correct Mapping to PLOs and Assessment Instruments**, Ajman, United Arab Emirates, 21 October 2022.
- **Writing-Learning-Outcomes-Writing-Learning-Outcomes**, Qedex, Ajman, United Arab Emirates, 24 February 2022.
- **An Innovative Approach to Universal Design Learning: Engaging All Learners**, Ajman University, Ajman, United Arab Emirates, Wednesday 16 February 2022.
- **Best Exam Invigilation Practices**, Ajman University, Ajman, United Arab Emirates, February 1st, 2022.
- **Removing Barriers to Student Learning: Inclusive Syllabi and Assignments**, Ajman University, Ajman, United Arab Emirates, Tuesday 18th January 2022.
- **Banner Features: Track Attendance & Grade Entry**, Ajman University, Ajman, United Arab Emirates, December 8th, 2021.
- **Best Practices for Moodle Quizzes and Online Exams**, Ajman University, Ajman, United Arab Emirates, December 7th, 2021.
- **Developing Life-long Learning Competencies in Undergraduate Students through Visual Thinking Strategies**, Ajman University, Ajman, United Arab Emirates, November 18th, 2021.
- **Sedona System Training**, Ajman University, Ajman, United Arab Emirates, November 24th, 2020.
- **Workshop on Blackboard Collaborate**, Ajman University, Ajman, United Arab Emirates, March 8th, 2020.
- **Virtual Online Lectures using Moodle and Blackboard Collaborate Training**, Ajman University, Ajman, United Arab Emirates, March 5th, 2020.
- **Sedona System Training**, Ajman University, Ajman, United Arab Emirates, November 5th, 2019.
- **Curriculum Design for Learning**, Ajman University, Ajman, United Arab Emirates, November 1st and 2nd, 2019.
- **Bibliometrics and Boosting Citation Impact**, Ajman University, Ajman, United Arab Emirates, January 19, 2019.
- **Teaching and Learning Method**, Jordan University of Science and Technology, Irbid-Jordan, February 22-23, 2017.
- **Teaching Methods and Strategies**, Jordan University of Science and Technology, Irbid-Jordan, January 22-23, 2017.
- **Measuring and Re-evaluation**, Jordan University of Science and Technology, Irbid-Jordan, June 6-7, 2011.
- **Modern University Instructional Method**, Jordan University of Science and Technology, Irbid-Jordan, July 3-4, 2010.

- **Materials Control and Acceptance**, Federal Highway Administration (FHWA) and National Highway Institute (NHI), Sacramento, California. March 20 & 21, 2007.
- **Pavement Smoothness Workshop**, Sponsored by the Federal Highway Administration, Caltrans, Sacramento, California. April 11, 2006.
- **Construction Analysis for Pavement Rehabilitation Strategies (CA4PRS)**, Sponsored by Caltrans, University of California Berkeley (UCB) and the Federal Highway Administration, Caltrans, Sacramento, California. March 14 –15, 2006.
- **Tire Pavement Noise 101**, A Federal Highway Administration Workshop, Caltrans, Sacramento. February 27, 2006.
- **Introduction to ArcGIS I**, Caltrans, Sacramento, California. October 4 and 5, 2005.
- **Pavement Preservation: Integrating Pavement Preservation Practices and Pavement Management**, National Highway Institute, Sacramento, California. July 26 & 27, 2005.
- **FHWA’s Mechanistic-Empirical Design Guide Workshop, Publication no. FHWA-IF-04-2**, Caltrans, Sacramento, California. February 24, 2005.
- **FHWA’s Introduction to the NCHRP 1-37A Design Guide Workshop, Connecticut**, Caltrans, via the web, Sacramento, California. August 26, 2004.
- **Removing Water from within Pavement Structures Workshop**, Caltrans, Sacramento, California. August 2-4, 2004.
- **California BackCalculation Software (CalBack) Workshop**, Caltrans, Sacramento, California. March 24, 2004.
- **NCHRP Design Guide (AASHTO 2002) Pavement Analysis and Design System Workshop**, Caltrans, Sacramento, California. March 23, 2004.
- **EverFE (Rigid Pavement Analysis by using Finite Element) Workshop**, Caltrans, Sacramento, California. March 11, 2004
- **Civil Engineering Applications of Tire Shreds Workshop**, Caltrans, Sacramento, California. January 6, 2004.
- **Caltrans/FHWA/WSCACPA Annual Pavement Conference**, Caltrans, Sacramento, California. October 9, 2003.
- **Recycling of Asphalt Concrete Pavement Seminar**, Caltrans, Sacramento, California. May 29, 2003.
- **Design Strategies for Concrete Pavement**, Caltrans, Fresno, California. September 17-19, 2002.
- **Concrete Pavements Workshop**, Caltrans, Folsom Laboratory, Sacramento, California. October 10, 2002.
- **Temporary Erosion Control Training For Designers**, Caltrans, Oakland, California. August 8, 2002.
- **Introduction to Project Development**, Caltrans, Oakland, California. Jun 24-26, 2002.
- **AASHTO Roadside Design Guide**, Caltrans, Oakland, California. Jun 10-11, 2002.
- **Ethics Awareness for Designers**, Caltrans, Oakland, California. May 29, 2002.
- **The American with Disabilities Act (ADA)**, Caltrans, Oakland, California. May 21, 2002.
- **Computer Aided Civil Engineering and Surveying System (CAiCE) Visual Roadway Design**, Caltrans, Oakland, California. April 8-12, 2002.
- **Transportation Management Plans (TMP’s)**, Caltrans, Oakland, California. April 17, 2002.
- **Highway Geometric Design with Caltrans Standards**, California State Polytechnic University, Pomona, California. March 25-27, 2002.
- **Basic Engineering Estimate System (BEES)**, Caltrans, Oakland, California. March 28, 2002.
- **Introduction to MicroStation**, Caltrans, Oakland, California. March 20-21, 2002.
- **Flexible Pavements Mix and Structural Design**, Caltrans, Oakland, California. February 13-15, 2002.

- **Performance Characterization of Asphalt Concrete**, University of Illinois at Urbana-Champaign. May 1999.
- **Long Term Pavement Performance (LTPP)**, University of Illinois at Urbana-Champaign. September 1999.

Awards and Honors

- Research assistantship for 4 years during Ph.D. studies starting Fall 1997 to spring 2000.

Research Funding Received

- Principal Investigator, High Temperature Performance of Styrofoam-modified asphalt mixtures. Amount 20,000 AED. Sep 1st, 2023. Ajman University.
- Principal Investigator, High Temperature Performance of Styrofoam-modified asphalt binders. Amount 20,000 AED. Sep 1st, 2022. Ajman University.
- Principal Investigator, Fund number 2021-IRG-ENIT-16, “Low Temperature Performance of Sasobit Modified Asphalt Binders Containing Date Seeds Bio Oil”, Amount 20,000 AED, Sep. 2021, Ajman University, UAE
- Sabbatical leave Proposal: “Low Temperature Performance of Sasobit Modified Asphalt Binders Containing Crumb Rubber”, Sep 2017. JUST.
- Estimation of Free Flow Speed at Suburban and Rural Divided Multilane Highways, amount \$ 2,000. Jordan University of Science and Technology, Jan 2013.
- Utilizing the Superpave Dynamic Shear Rheometer to Investigate the Fatigue Damage Behavior of Asphalt Binders (\$ 5,000), Jordan University of Science and Technology.

COMMUNITY SERVICES

- The 24th International Arab Conference on Information Technology (ACIT 2023). Co-Chair: Session 5B, Engineering Applications 3 (ENG3). Thursday, 7th December 2023. Ajman University, UAE.
- Meeting with the Executive of Ajman Council and a consulting company to develop Ajman Social and Cultural life. Oct. 18th 2023.
- Expo 2020 Education Program - Focus Group -Feb, 2021
- Member of interviewing committee for Assistant Professor faculty position – Architecture Engineering, College of Architecture, Arts & Design, Ajman University, Feb, 2021.
- Member of interviewing committee for the adjunct faculty for Mechanical Engineering– College of Engineering and Information Technology, Ajman University, Feb, 2021.
- Member of interviewing committee for the adjunct faculty for Mechanical Engineering– College of Engineering and Information Technology, Ajman University, January, 2021.
- Member of Facility Optimization Sub-Committee, Ajman University, January, 2021
- Member of promotion committee from Lecturer to Senior Lecturer and Teaching Assistant to the rank of Instructor – College of Architecture, Arts & Design, Ajman University, November, 2020.
- Member of interviewing committee for the part timers – College of Architecture, Arts & Design, Ajman University, August 2020.
- Curriculum Development for several courses in Civil Engineering study plan, Ajman University (2018-Prsent).
- Coordinator of search committee for the post of Assistant Professor – Civil Engineering Department, College of Engineering and Information Technology, Ajman University, Ajman, UAE, March 2020.

- Member of search committee for the post of Assistant Professor – Mechanical Engineering Department, College of Engineering and Information Technology, Ajman University, Ajman, UAE, March 2020.
- Coordinator of search committee for the post of Teaching Assistant – Civil Engineering Department, College of Engineering and Information Technology, Ajman University, Ajman, UAE, Dec. 2019.
- Member of search committee for the post of Dean – College of Architecture, Arts & Design, Ajman University, Ajman, UAE, September 2019.
- Traffic Study for Queen Zain Al-Sharaf Roundabout at the Entrance of Ramtha City”, Jordan, August 2017.

COURSE WORK

Ph.D. Courses:

- Pavement Analysis and Design I, Pavement Analysis and Design II, Bituminous Materials and Mix Design, Advanced Bituminous Materials
- Pavement Evaluation, Maintenance & Rehabilitation, Pavement Management
- Airport Facilities Design, Transportation Soils Engineering, Independent Study (Constitutive Modeling of AC)
- Design and Analysis of Experiments, Construction Management Information systems, Applied Statistical Methods
- Highway Traffic Analysis and Design

MS Courses:

- Highway Materials, Pavement Design, Highway Maintenance
- Analytical Techniques in Transportation, Advanced Applied Mathematics
- Urban Planning, Highway Design and Capacity, Highway Safety
- Quality Assurance of Construction Materials

Master Theses Advisory:

Supervised 12 MSc students and served in 25 master theses examining committees (2009 – current).

B.Sc. Graduation Projects Supervision:

Supervised about hundred students from 2008 until 2024 in Jordan University of Science and Technology and Ajman University.