



Name: Dr. Ahmed Assad

Rank: Assistant Professor - Civil Engineering

Personal Information

Nationality:	Canadian
AU Joining Date:	21 Jun 2022
E-Mail Address:	a.assad@au.edu.kw

Professional Information

Education:	Postdoctoral fellowship - University of Alberta Canada, 2022. PhD (Civil Engineering) - Concordia University, Canada 2020. MSc (Civil Engineering) - Kuwait University, Kuwait 2014. BSc (Civil Engineering) - Kuwait University, Kuwait 2011.
Specialization:	Construction Engineering and Asset Management
Current Academic Position:	Assistant Professor - Civil Engineering
Current Professional Positions:	Member of the Canadian Society of Civil Engineers. Member of the American Society of Civil Engineers.
Previous Administrative Position Held:	NA
Previous Academic Positions Held:	Adjunct Professor - Concordia University, Canada (2020-2021)
Fellowships And Honors:	EIT at Professional Engineers Ontario (PEO). Member at Canadian Society of Civil Engineers and American Society of Civil Engineers. Member of Canadian Network of Asset Managers. Certified Project Management Professional (PMI-PMP) ®.
Teaching Experience:	Adjunct Professor - Concordia University, Canada (2020-2021) Teaching Assistant - Concordia University, Canada (2017-2020) Teaching Assistant/Instructor - Australian University (2013-2016)

Industrial And Technical Experience:	Research Assistant - Kuwait University (2012-2013) Site Engineer - Project Management International Systems (PMI) 2011-2012)
Research Interest:	- Data analytics and Machine Learning for Construction Engineering and Asset Management - Complex infrastructure systems modeling and simulation - Adaptive and hazard resilient infrastructure - Risk-informed Decision-making - Stochastic optimization
Research Grants:	▪ 2025: “Holistic AI-Based Autonomous Condition Assessment for Bridges” – KD 1,500 (~\$5,000), Principal Investigator – AU Grant #IRC-2024/2025-SRC-PR08 ▪ 2025: “Examining the Role of Roadside Distractions in Driver Safety: An Eye Tracking Approach” – KD 44,500 (~\$5,000), Co-Investigator – AU Grant #CN24-15EV-2305 ▪ 2022: “Integrated Criticality Assessment of Kuwait Highway Bridges Utilizing AI Technologies” – KD 1,200 (~\$4,000), Principal Investigator – AU Grant #IRC-2022/2023-COE-CE-PR02 ▪ 2022: “Resilience of Stormwater Systems against Climate-Induced Extreme Rainfalls in Kuwait” – KD 30,000 (~\$98,000), Co-Investigator – KFAS Grant #CN2245EV1601
Research and Publications including Journal and Books:	1. Assad, A., and Bouferguene, A. (2023). Enhancing Bridge Management: A Data-driven Approach for Accurate Forecasting of Concrete Bridge Condition. <i>Journal of Engineering Research</i>, (2307-1877). 2. Assad, A., and Bouferguene, A. (2022). Resilience of Water Distribution Systems: Systematic Review and Bibliometric Analysis. <i>Journal of Hydrology</i>, 27522. 3. Assad, A., and Bouferguene, A. (2021). Data Mining Algorithms for Water Main Condition Prediction – Comparative Analysis. <i>Journal of Water Resources Planning and Management</i>, 148(2), 04021101. 4. Assad, A., Moselhi, O., and Zayed, T. (2021). Resilience-Driven Sustainability-Based Rehabilitation Planning for Water Distribution Networks. <i>Journal of Construction Engineering and Management</i>, 147(8), 04021079. 5. Assad, A., Moselhi, O., and Zayed, T. (2020). Resilience-Driven Multi-objective Restoration Planning for Water Distribution Networks. <i>Journal of Performance of Constructed Facilities</i>, 34(4), 04020072. 6. Assad, A., Moselhi, O., and Zayed, T. (2019). A New Metric for Assessing Resilience of Water Distribution Networks. <i>Water</i>. 7. El-Zahab, S., Asaad, A., Abdelkader, E. M., and Zayed, T. (2018). Development of a Clustering-Based Model for Enhancing Acoustic Leak Detection. <i>Canadian Journal of Civil Engineering</i>, 1–23. 8. El-Zahab, S., Asaad, A., Abdelkader, E. M., and Zayed, T. (2017). Collective Thinking Approach for Improving Leak Detection Systems. <i>Smart Water</i>, 2(1), 3.

	9. Gerges, M., Ahlakwo, O., Jaeger, M., and Assad, A. (2016). Building Information Modeling and Its Application in the State of Kuwait. <i>International Journal of Civil, Environmental, Structural, Construction and Architectural Engineering</i>, 10(1), 81–86. 10. Alkhalidi, M., Neelamani, S., and Assad, A. (2015). Wave Forces and Dynamic Pressures on Slotted Vertical Wave Barriers with an Impermeable Wall in Random Wave Fields. <i>Ocean Engineering</i>, 109, 1–6. 11. Alkhalidi, M., Neelamani, S., and Assad, A. (2015). Wave Pressures and Forces on Slotted Vertical Wave Barriers. <i>Ocean Engineering</i>, 108, 578–583.
Paper Presentations at Professional Conferences:	1. Assad, A., Albkoor, Y., Abdullah, A., AlAteeqi, S., and Bouferguene, A. (2025). Automated Heavy Machinery Recognition Using State-of-the-Art Deep Learning Methods. Joint CSCE Construction Specialty & CRC Conference 2025, Montreal, Quebec, July 28–31, 2025. 2. Assad, A., Bo Arki, M., Sweid, M., and Hammad, A. (2025). Crack Detection and Segmentation for Bridges Using State-of-the-Art Deep Learning Methods: Single-Stage vs. Two-Stage Detectors. <i>Proceedings of the 42nd International Symposium on Automation and Robotics in Construction (ISARC)</i>, Montreal, Canada, pp. 996–1003. ISBN 978-0-6458322-2-8, ISSN 2413-5844. 3. Assad, A., and Bouferguene, A. (2023). Machine Learning-Based Deterioration Modeling of Highway Bridges Considering Climatic Conditions. <i>Interdisciplinary Symposium on Smart & Sustainable Infrastructures</i>, Cham: Springer Nature Switzerland, pp. 1039–1051. 4. Assad, A., and Bouferguene, A. (2023). Enhancing Bridge Management: A Data-driven Approach for Accurate Forecasting of Concrete Bridge Condition. <i>The First GCC Engineering Symposium</i>, Kuwait. 5. Abdelkader, E., and Assad, A. (2022). Stochastic Scrutinization of Project Alternatives Based on Monte Carlo Simulation. <i>1st International Conference on Innovative Academic Studies</i>, Konya, Turkey. 6. Ahmed, R., Assad, A., Abdelkader, E. M., Zayed, T., and Nasiri, F. (2020). Stochastic-Based Deterioration Modeling of Elevators in Healthcare Facilities. <i>2020 International Conference on Decision Aid Sciences and Application (DASA)</i>, IEEE, pp. 572–576. 7. Assad, A., Moselhi, O., and Zayed, T. (2019). Multi-Attribute Metric for Assessing Resilience of Water Distribution Networks. <i>7th CSCE International Construction Specialty Conference</i>, Laval, QC, Canada. 8. Assad, A., Nasiri, F., and Zayed, T. (2018). Resilience Assessment of Water Networks Against Seismic Hazard. <i>6th International Disaster Mitigation Specialty Conference – CSCE 2018 Conference</i>, Fredericton, NB, Canada. 9. Assad, A., and Zayed, T. (2018). Performance Assessment for Water Networks. <i>CSCE 2018 Conference</i>, Fredericton, NB, Canada.

	10. Assad, A., and Zayed, T. (2018). Criticality Assessment Model for Water Pipelines Using Fuzzy Analytical Network Process. <i>20th International Conference on Analysis, Management and Maintenance of Civil Infrastructures</i>, Boston, MA, USA. (Best Presentation Award). 11. Assad, A., Nasiri, F., and Zayed, T. (2018). Holistic Resilience-Based Asset Management Approach Using System Dynamics. <i>International Conference on Durability of Building and Infrastructures</i>, Miri, Malaysia, pp. 371–375. 12. Assad, A., Nasiri, F., and Zayed, T. (2017). Resilience-Based Asset Management Using System Dynamics and Evolutionary Optimization. <i>National Water and Wastewater Conference</i>, St. John's, Newfoundland and Labrador, Canada. 13. Assad, A. (2015). Quality of Tap Drinking Water in Kuwait: Physicochemical Characteristics. <i>International Conference on Sustainable Mobility Applications, Renewables and Technology (SMART)</i>, IEEE, pp. 1–4.
College Service including committee Membership:	Curriculum Committee Departmental Disciplinary Committee Validation and Moderation Committee Students Appeals & Complaints Committee Labs and Workshop Committee Research & Faculty Development Committee Accreditation Committee
National Service:	NA
College Committees:	Engineering Graduation Project Organizer (2025).