

## THIKRA DAWOOD

### Postdoctoral Researcher

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### HONORS, AWARDS, and GRANTS

- **Honor Degree for Ph.D. Thesis**  
*Concordia University, Montréal, 2018*  
A merit-based degree to highly-qualified doctoral students who are conducting outstanding research in their discipline and have established a notable record of publications during the data analysis and writing phase.
- **Excellent Graduate Thesis Award**  
*University of Baghdad, Iraq, 1997*  
A graduate award to Master's students who are achieving excellent grade in their research.
- **Best Technical Paper Award, First-Place**  
*2018 International Conference on Durability of Building and Infrastructure, Miri, Malaysia*  
The first-place award in the engineering panel competition to the paper entitled "Multi-Attribute Utility Theory Condition Rating for Flexible Pavements."
- **Grant for outstanding research**  
*Natural Sciences and Engineering Research Council of Canada Grant, 2017*
- **Grant for Inspiring Innovation research**  
*Natural Sciences and Engineering Research Council of Canada Grant, 2015*
- **Mitacs Accelerate for graduate merit internship of Canada, Three-year**  
*The Mathematics of Information Technology and Complex Systems Internship with Industry, 2013*
- **Best plan Competition award, First-Place**  
*Minister of Higher Education & Scientific Research Award, Baghdad*  
The first-place award from the minister for the success of planning a village in the suburbs of Baghdad city, 1997
- **CU Graduate Award**  
*Graduate and Professional Committee, Concordia University*  
Travel award supporting participation in the 2016 Transportation Research Board 95<sup>th</sup> Annual Meeting in Washington, D.C.
- **CU Graduate Award**  
*Graduate and Professional Committee, Concordia University*  
Travel award supporting participation in the 2018 Construction Research Congress in New Orleans, LA.

## EDUCATION

- Ph.D. in Construction Engineering and Management / Building Engineering / Department of Building, Civil & Environ. Eng., Concordia University, Montréal, Canada.
- M.Sc. in Urban and Regional Planning / University of Baghdad, Iraq.
- B.Sc. in Geomatics Engineering / Department of Civil Engineering, University of Baghdad, Iraq.

## JOURNAL PUBLICATIONS

- **Dawood, T.;** Zhu, Z.; Zayed, T. “Machine Vision-Based Model for Spalling Detection and Quantification in Subway Networks.” *Journal of Automation in Construction*, Vol. 81, PP. 149-160. <https://doi.org/10.1016/j.autcon.2017.06.008>.
- **Dawood, T.;** Zhu, Z.; Zayed, T. “Computer Vision-Based Model for Moisture Marks Detection and Recognition in Subway Networks.” *Journal of Computing in Civil Engineering*, Vol. 32, Iss. 2, <http://ascelibrary.org/doi/full/10.1061/%28ASCE%29CP.1943-5487.0000728>.
- Abouhamad, M.; **Dawood, T.;** Jabri, A.; Alsharqawi M.; Zayed, T. “Corrosiveness Mapping of Bridge Decks using Image-Based Analysis of GPR Data.” *Journal of Automation in Construction*, Vol. 80, PP. 104-117. <https://doi.org/10.1016/j.autcon.2017.03.004>.
- Dinh, K.; Zayed, T.; Moufti, S.; Shami, A.; Jabri, A.; Abouhamad, M.; **Dawood, T.** “Clustering-Based Threshold Model for Condition Assessment of Concrete Bridge Decks using Ground Penetrating Radar.” *Transportation Research Record (TRR): Journal of the Transportation Research Board (TRB)*, 2015, Vol. 2522, PP. 81-89. DOI: 10.3141/2522-08.
- **Dawood, T.;** Zhu, Z.; Zayed, T. “Deterioration Modelling in Concrete Infrastructure via Sensory Data Image Processing.” *Journal of Construction Engineering & Management*, under review.

## CONFERENCE PUBLICATIONS

- **Dawood, T.;** Zhu, Z.; Zayed, T. “GPR-Based Deterioration Mapping in Subway Networks.” Construction Research Congress (CRC), Proceedings (ASCE), 2018, PP. 351-361. <https://ascelibrary.org/doi/abs/10.1061/9780784481295.036>.
- Abu-Samra, S.; **Dawood T.;** Zayed T. “Multi-Attribute Utility Theory Condition Rating for Flexible Pavements.” DuraBI 2018, 1st International Conference on Durability of Building and Infrastructure, January 10-12, 2018, Miri, Malaysia.
- Al Lafi, G.; Zhu, Z.; **Dawood, T.;** Zayed, T. “3D Thermal and Spatial Modeling of a Subway Tunnel: A Case Study.” Congress on Computing in Civil Engineering, Proceedings (ASCE), 2017, PP. 386-394.
- **Dawood, T.;** Zhu, Z.; Zayed, T. “Detection and Quantification of Spalling Distress in Subway Networks.” Proceedings of the 21st International Symposium on Advancement of Construction Management and Real Estate, Springer, Singapore, PP. 607-615.
- Temurcan, P.; **Dawood, T.;** Zayed, T. “Image-Based Versus Numerical Analyses of Concrete Bridge Decks using GPR.” iBridge Conference 2016, August 8-10, 2016, Istanbul, Turkey.
- (Presentation **Dawood, T.;**) Abouhamad, M.; Dinh, K.; **Dawood, T.;** Shami, A.; Jabri, A.; Zayed, T. “Image-Based Analysis Corrosiveness Mapping of Bridge Decks using Ground Penetrating Radar.” 95th Annual Meeting of the Transportation Research Board (TRB), January 10-14, 2016, Washington, D.C., USA.
- **Dawood, T.;** Zhu, Z.; Zayed, T. “Automated Recognition of Surface Defects in Subway Systems.” Proceedings of the Fourth International Conference on Soft Computing Technology in Civil, Structural and Environmental Engineering", Civil-Comp Press, Stirlingshire, UK, Paper 13, 2015. doi:10.4203/ccp.109.13.

- **Dawood, T.;** Zhu, Z.; Zayed, T. “An Image-Based Data Model for Subway Condition Assessment.” ICSC15 - The International Construction Specialty Conference, June 7-10, 2015, Vancouver, BC, Canada.
- **Dawood, T.;** Abouhamad, M.; Shami, A.; Zayed, T.; Dinh, K. “Progrès Récents Dans la Cartographie de la Corrosion des Dalles de Pont en Béton.” 22e Colloque Sur la Progression de la Recherche Québécoise Sur les Ouvrages d'art, May 5-6, 2015, Quebec, QC., Canada.
- **Dawood, T.;** Abouhamad, M.; Jabri, A.; Zayed, T.; Dinh, K. “Évaluation Améliorée de la Corrosivité des Dalles de Pont en Béton.” 22e Colloque Sur la Progression de la Recherche Québécoise Sur les Ouvrages d'art, May 5-6, 2015, Quebec, QC., Canada.

## REPORTS for INDUSTRY

- Developed an automated method for the condition assessment and maintenance of reinforced concrete bridges. This method has been adopted by the Ministry of Transportation of Quebec [Ministère des Transports du Québec (MTQ)] as a **standard** for bridge inspection. Also, produced the following reports, under research project R730.1 for the MTQ:
  - ✚ GPR-based condition rating system for concrete bridge decks in Quebec, 3<sup>rd</sup> Interim Report, May 2014.
  - ✚ GPR-based condition rating system for concrete bridge decks in Quebec, 4<sup>th</sup> Interim Report, January 2015.
  - ✚ GPR-based corrosiveness rating system for concrete bridge decks in Quebec, Final Report, May 2015.
- Produced a report entitled “Optimization of tunnel drainage through the identification of water using multi-sensory data fusion” for the Montréal Transit Corporation [Société de Transport de Montréal (STM)].
- Produced a report entitled “Cured - in - Place - Pipe (CIPP) Trenchless Technology for Water Mains Rehabilitation” for GAME Trenchless Consultants.

## LANGUAGES & TECHNICAL SKILLS

- **Languages Written and Spoken:** English, French.
- **Computer Skills:** MS Office Suite (Word, Excel, PowerPoint, Outlook), MATLAB, Primavera P6, Primavera Risk Analysis, Monte Carlo Simulation, RADAN7, AutoCAD (2D/3D), Auto desk VIZ.