

## Curriculum Vitae

**Emad Elwakil PhD, PE, PMP, CCE**

**Associate Professor**

School of Construction Management

**Purdue University**

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### ***1. Education:***

September 2007 – June 2011:

**Doctor of Philosophy, Building Engineering and Construction Management**

Concordia University, Montreal, Quebec, Canada

September 2003 – May 2006:

**Master of Science/ Construction Engineering and Management, Zagazig University, Egypt**

September 1997 - May 2002:

**Bachelor of Civil Engineering, Zagazig University, Egypt Graduation Project: Construction Engineering and Management**

### ***2. Organizations Professional Membership***

- Professional Engineer of Ontario (PE)
- Certified Cost Engineer (CCE)
- Certified Project Management Professional (PMP)
- Member, Project Management Institute
- Member, Golden Key International Honour Society
- Member, North American Society for Trenchless Technology (NASTT)
- Member ,Construction Research Council (CRC)
- Member, American Society for Civil Engineers(ASCE)

### ***3. Academic Prizes and Honours***

2018 Purdue Polytechnic Institute Exceptional Early Career for Outstanding Undergraduate Teaching Award

2018 The School of Construction Management Outstanding Faculty in Discovery Award

2018 The School of Construction Management Outstanding Faculty in Learning Award

2017 The School of Construction Management Exceptional Early Career Teaching Award

2014 The School of Construction Management Outstanding Faculty in Discovery Award

2013 The Outstanding Engineering Achievement Merit Research Award

#### 4. *Employment:*

August 2019– present

Department of Building Construction Management, Purdue University

Position: **Tenured Associate Professor**

September 2013– July 2019

Department of Building Construction Management, Purdue University

Position: **Assistant Professor (Tenure Track)**

January 2012– August 2013

Department of Civil Engineering and Construction Management, California State University, Northridge Position: **Assistant Professor (Tenure Track)**

July 2011 – December 2011

Department of Building, Civil and Environmental Engineering, Concordia University, Montreal, Quebec, Position: **Postdoctoral Fellow**

September 2007 – June 2011

Department of Building, Civil and Environmental Engineering, Concordia University, Montreal, Quebec, Position: **Teaching and Research Assistant**

March 2004 – August 2007

Morganti American Company, USAID projects, Alexandria, Egypt, Position: **Senior Planning and Scheduling Engineer, Infrastructure Project.**

June 2002 – February 2004

Morganti American Company, USAID projects, Mansoura, Egypt, Position: **junior Planning and Scheduling Engineer, Infrastructure Project.**

#### 5. *Related Funded Research projects*

- Principle Investigator for Lay the groundwork for a knowledge-based professional designation, American Society for Healthcare Engineering (ASHE)
- Principle Investigator for Risk of Water Pipelines Contamination Assessment, Peru Nexus
- Principle Investigator for Improve the Performance of Data Mining Modeling Engines Grant, Eyedeal Tech
- Principle Investigator for Healthcare Facility management Model Grant, Medxcel Company
- Senior Researcher for Oil and Gas Pipelines Contamination and Sustainability Grant, Qatar National Foundation
- Senior Researcher for Developing Sustainable Water Pipelines System Grant, Qatar National Foundation
- Senior Researcher for Developing Sustainable Pavement Marking System Grant, Infrastructure Canada

#### 6. *Research Interests*

- Infrastructure and facility management
- Risk analysis and assessment using quantitative and qualitative methods
- Data mining and knowledge Management
- Data modeling and simulation
- Construction simulation and modeling

- Sustainability of Infrastructures
- Claims analysis and decision support systems
- Productivity and performance measurement of construction organizations
- Innovations and technological aids in construction

## 7. Academic Publication (Related Publications)

### Full articles in refereed journals

- Amerkheil, Q., Elwakil, E.\* (2019) "Construction Organization Success Strategy in Post-conflict Environment" International Journal of construction Management, Taylor & Francis Group. (In Press)
- Hassan, S., Elwakil, E. (2019) "Stochastic Regression Deterioration Models for Superstructure of Prestressed Concrete Bridges in California ", Journal of Structural Integrity and Maintenance. 4(2), 97-108.
- Elwakil, E.\*, Hegab, M. (2019) "Investment Possibility based Models for Public Private Partnership in Water Projects" Canadian Journal of Civil Engineering. Canadian Journal of Civil Engineering. <https://www.nrcresearchpress.com/doi/abs/10.1139/cjce-2018-0361#.XSS1gOtKiUk>
- Baker, C. †, Rapp, R., Elwakil, E., Zhang, J. (2019) "Infrastructure Assessment Post-Disaster: Unmanned Aerial Vehicles with Remote Sensing for Detecting Global Damage to Bridge Steel Girders in Low Visibility Conditions "Journal of Emergency Management. (In Press)
- Elwakil, E.\* (2018) "Functional Expert-based Performance Assessment Models at Organizational Level" Engineering Project Organization Journal, 8, 123-140.
- Elwakil, E.\* and Zayed, T. (2018) "Construction Productivity Fuzzy Knowledge Base Management System" Canadian Journal of Civil Engineering, 45(5), 329-338. (nominated for the best paper award)
- Elwakil, E.\* (2017) "Integrating Analytical Hierarchy Process and Regression for Assessing Construction Organizations' Performance" International Journal of construction Management, Taylor & Francis Group. Vol 17(1), 76-88.
- Salem, D. \*†, Elwakil, E.\*, Hegab, M. (2017) "Risk Level Problems Affecting Microtunneling Projects Installation" Canadian Journal of Civil Engineering. Canadian Journal of Civil Engineering, 44(12), 1014-1021.
- Salem, D.\* †, Elwakil, E.\* (2017) "Fuzzy-Based Model for Electric Lighting Evaluation in Institutional Buildings "International Journal of Architecture, Engineering and Construction, Vol 6, No 2, 12-28.
- Salem, D.\* †, Elwakil, E.\* (2016)" Daylighting-Based Assessment of Occupant Performance in Educational Buildings "Journal of Professional Issues in Engineering Education and Practice ASCE. Vol 143, Issue 1. pp. 01-09.
- Elwakil, E.\* (2016) "Integrating AHP-Fuzzy Model for Assessing Construction Organizations' Performance" International Journal of Architecture, Engineering and Construction, Vol 5, No 1, 01-12.

- Salem, D. \*†, Elwakil, E.\* (2016) “Toward a Sustainable World Institutional Buildings” International Journal of Architecture, Engineering and Construction, Vol 5, No 2. pp. 61-71.
- Radwan, A. †\*, Elwakil, E.\* (2016) “Functional Units based Model for Construction Organizations Performance” International Journal of Architecture, Engineering and Construction, Vol 5, No 3, 128-137.
- Elwakil, E. \*, and Zayed, T. (2014) " Construction Knowledge Discovery System Using Fuzzy Approach” Canadian Journal of Civil Engineering, 42(1), 22-32. (nominated for the best paper award)
- Elwakil, E. \*, Eweda, A. \*, and Zayed, T. (2014) "Modeling the Effect of Various Factors on the Condition of Pavement Marking” Journal of Structure and Infrastructure Engineering, 10(1), 93-105.
- Elssinoucy, A. \*, El-Abbasy, M\*; Elwakil, E\*; Abdrabou, B†; Zayed, T (2014) “A model for Predicting Failure of Oil Pipelines” Journal of Structure and Infrastructure Engineering, 10(3), 375-387.
- Zayed, T. \*, Elwakil, E. \*, Ammar, M. (2012) “A Framework for Performance Assessment of Organizations in the Construction Industry” International Journal of Architecture, Engineering and Construction, Vol 1, No 4, 199-212.
- Fares, H. \*, Shahata, K. \*, Elwakil, E. \*, Eweda, A., Zayed, T., and Abdelrahman, M. (2012) “Modeling the Performance of Pavement Marking in Cold Weather Conditions” Journal of Structure and Infrastructure Engineering, 8 (11), 1067-1079, Taylor & Francis.

#### **Conference or symposium proceedings (papers peer reviewed)**

- Elwakil, E. \*, Hegab M. (2019) “Decision Support System for Public Private Partnership Investment in Water Projects “The Canadian Society for Civil Engineering , CSCE 2019 Annual Conference in Laval (Greater Montreal), QC, from June 12th to15th, 2019.
- Hassan, S., Elwakil, E. (2019) “Cluster Based Regression Modeling For Predicting Condition Rating Of Highway Tunnels “The Canadian Society for Civil Engineering , CSCE 2019 Annual Conference in Laval (Greater Montreal), QC, from June 12th to15th, 2019.
- Hassan, S., Elwakil, E. (2019) “Deterioration Models For Superstructure Of Prestressed Concrete Bridges In California “The Canadian Society for Civil Engineering , CSCE 2019 Annual Conference in Laval (Greater Montreal), QC, from June 12th to15th, 2019.
- Syed, S. \*†, Elwakil, E.\* (2019) “Project Performance Index for Capital Intensive Construction Projects “10th International Structural Engineering and Construction Conference (ISEC-10), Chicago, Illinois, USA, May 20-25, 2019.
- Hajare, A. \*†, Elwakil, E.\* (2019) “Life Cycle Cost Analysis of Energy Efficient Single Family Residence “10th International Structural Engineering and Construction Conference (ISEC-10), Chicago, Illinois, USA, May 20-25, 2019.
- Amarkhil, Q. \*†, Elwakil, E.\* (2019) “Modeling Construction Organization Performance in Post-Conflict Environment “10th International Structural Engineering and Construction Conference (ISEC-10), Chicago, Illinois, USA, May 20-25, 2019.

- Salem, D. \*†, Elwakil, E.\* (2019) "Asset Condition Assessment of the Physical Condition in Healthcare Facilities" 10th International Structural Engineering and Construction Conference (ISEC-10), Chicago, Illinois, USA, May 20-25, 2019.
- Afkhamiaghda, M., Afsari, K., Elwakil, E., Rapp, R. (2019) "An Approach to Simulating Construction Process in Post-Disaster Sheltering "55th Annual ASC International Conference 2019. Denver, Colorado.
- Elwakil, E.\*, Hegab, M.\* (2018) "Risk Management for Power Purchase Agreements" 6th IEEE Conference on Technologies for Sustainability, Long Beach, California, November 11-13, 2018.
- Elwakil, E.\*, Hegab, M.\* (2018) "Priority Model for Public-Private Partnership Investment in Energy Projects' Penetration Time "6th IEEE Conference on Technologies for Sustainability, Long Beach, California, November 11-13, 2018.
- Elwakil, E.\*, Hegab, M.\* (2018) "Probabilistic Estimation for Microtunneling Projects" International Conference on Construction and Real Estate Management, Charleston, South Carolina, ASCE, August 09-10, 2018.
- Salem, D. \*†, Elwakil, E. \* (2018) " Develop An Assessment Model For Healthcare Facilities: A Framework to Prioritize the Asset Criticality for The Capital Renewals" International Conference on Construction and Real Estate Management, Charleston, South Carolina, ASCE, August 09-10, 2018.
- Ju, L\*. Li, H., \*; Zhao, W. \*†, Elwakil, E. \* (2018) "Why Paternalistic Leadership Cannot Behave Ethically? The Mechanism of Abusive Supervision in Territorial Conflict between Leader and Subordinate" Meeting Challenges of Continuous Transformation Conference, IACMR (The International Association for Chinese Management Research), Wuhan, China, June 13-17 2018
- Salem, D. \*†, Attia, T. \* Elwakil, E. \* (2016) "A Framework for Manual Lighting Control in Commercial Buildings Using Fuzzy Hierarchical Expert Approach" International conference on Sustainability and Project Management, March 2016, Egypt.
- Radwan, A.\*†, Elwakil, E. \* (2015) "Functional Units based Model for Construction Organizations Performance Prediction" 14th International Conference on Structural & Geotechnical Engineering 2015 (ICSGE14), Dec. 20th – 22nd, 2015, Egypt.
- Elwakil, E.\*, Zayed, T., Attia, T. (2015) "Construction Productivity Model Using Fuzzy Approach" International Construction Specialty Conference, Canadian Society for Civil Engineers, Ottawa, June 08-10, 2015.
- Rathore, Z. \*†, Elwakil, E. \* (2015) "A Framework for Organizations Performance Assessment Using Fuzzy Approach" International Construction Specialty Conference, Canadian Society for Civil Engineers, Ottawa, June 08-10, 2015.
- Salem, D. \*†, Elwakil, E,\* Kandil, A. (2015) "Building a Sustainable Occupant's Performance based Model for Institutional Buildings" International Construction Specialty Conference, Canadian Society for Civil Engineers, Ottawa, June 08-10, 2015.
- Radwan, A. \*†, Elwakil, E.\* (2015) "Framework for Functional Units based Fuzzy Model to Predict Construction Organizations Performance" Special Session on Fuzzy Logic Applications in Construction Engineering and Management at NAFIPS 2015, Redmond, WA, August 17-19, 2016.

- Radwan, A. \*†, Rathore, Z.,\* and Elwakil, E.\* (2015). Functional units based Fuzzy model framework for construction organizations performance. In Fuzzy Information Processing Society (NAFIPS) Annual Conference of the North American. IEEE.
- Rathore, Z. \*†, Radwan, A. \*, and Elwakil, E. \* (2015). "Framework to identify and evaluate the cause of conflicts within a Matrix organization in construction industry using fuzzy expert system." Fuzzy Information Processing Society (NAFIPS) 2015 Annual Conference of the North American. IEEE.
- Salem, D. \*†, Elwakil, E, \* Kandil, A (2015) "Fuzzy-Based Model for Predicting Lighting Efficiency in Institutional Buildings" Special Session on Fuzzy Logic Applications in Construction Engineering and Management at NAFIPS 2015, Redmond, WA, August 17-19, 2016.
- Attallah, S. \*, Kandil, A. \* Senoucy, A. \*, Alderham, A. \* and Elwakil, E. \* (2014) "Modeling Impact of Sustainability Policies in Qatar using Agent Based Approach and Life Cycle Analysis" International Computing in Civil and Building Engineering Conference, Orlando, Florida, USA.
- Mirahadi, S. \*†, Elwakil, E. \*, Zayed, T (2013) "An Innovative Technique for Improving Productivity Forecasting Models" Proceedings of 4th Construction Specialty Conference, CSCE, Montreal, QC, Canada, 2013, May 29- June 1, 2013.
- Elwakil, E. \*, Zayed, T. (2012) "Data Management for Construction Processes Using Fuzzy Approach". Construction Research Congress, ASCE, Purdue University May 21-23.
- Elwakil, E. \*, Zayed, T. (2011) "Construction Data Preparation Framework Using Fuzzy Approach" 3rd International Construction Specialty Conference, Canadian Society for Civil Engineers, Ottawa, June 14-17.
- Elwakil, E. \*, Zayed, T. (2011) "Develop a Knowledge Discovery System for Construction Processes" International project management Conference on Construction, Chengdu China, P005
- Elwakil, E. \*, Zayed, T. (2011) "Develop a Data Preparation Framework for Construction Processes" International project management Conference on Construction, Chengdu China, P007.
- Elwakil, E. \*, Eweda, A., Mahmoud, M., Ammar, M., Mashhour, I., and Zayed, T. (2009) "Investigation and Modeling of Critical Success Factors in Construction Organizations". Construction Research Congress, ASCE, Seattle, Washington USA, April 5-7, pp. 350-359.
- Fares, H. \*, Elwakil, E. \*, Zayed, T., Shahata, K. (2009) "Performance Assessment Methodology for Sustainable Pavement Marking" Transportation Research Board (TRB) Annual Meeting, Washington, DC, USA, January 11-15.

### **Books**

- Hegab, M.\*, and Elwakil, E.\* (2017) "Public Private Partnership for Highway Projects: Contract Administration. ISBN: 1979315930