

## **CURRICULUM VITAE**

### **1. Education and Employment Information**

1989-1993: Doctor of Philosophy (Ph.D.) in Civil Engineering, Oklahoma State University, Stillwater, USA.  
Overall GPA 3.79/4.0 (Thesis: Water permeability of Silica Fume Mortars)

1985-1989: Master of Science (M.Sc.) in Construction Management, Zagazig University, Zagazig, Egypt.

1979-1984: Bachelor of Science in Construction Engineering (Civil Engineering), Zagazig University, Zagazig, Egypt. Honors Degree, Overall GPA 3.6/4.0.

1993-95: Contract administration engineer, National Consultancy Inc., Saudi Arabia.

1995-01: Assistant Professor, Department of Construction Engineering, Zagazig University, Egypt.

1998-01: Assistant Professor (part time), Arab Academy for Science Technology & Maritime Transport (AASTMT), Egypt.

2001-04: Assistant Professor, College of Technology, Abha, Saudi Arabia.

2004-07: Assistant Professor, King Fahd University of Petroleum & Minerals (KFUPM)

2007-2012: Associate Professor, KFUPM.

2010-2011: Visiting Professor, Concordia University, Canada.

2012-2018: Teaching prof., Algonquin College, Ottawa, Canada.

2018-Now: Associate Professor, Sultan Qaboos University, Oman.

### **2. Teaching and Learning**

Sultan Qaboos University (Undergraduate) courses:

- 1) Construction Planning & Scheduling (Primavera P6)
- 2) Specifications & Contracts
- 3) Construction Management
- 4) Construction Cost Estimating
- 5) Engineering Economics

Sultan Qaboos University (Graduate) courses:

- 1) Construction project management
- 2) Special topics in construction engineering
- 3) Research methods & simulation

### **3. Scholarship**

**Journal papers:**

- 1) Elazouni, A., and Basha, I., "Evaluating the Performance of Construction Equipment Operators in Egypt," *Journal of Construction Engineering and Management*, ASCE, Vol. 122, No. 2, June (1996), pp. 109–114.
- 2) Elazouni, A., "Constructability Improvement of Steel Silos during Field Operations," *Journal of Construction Engineering and Management*, ASCE, Vol. 123, No. 1, March (1997), pp. 21- 25.
- 3) Elazouni, A., Mohieldin, Y., Nosair, I., and Mohamed, A., "Estimating Resource Requirements at Conceptual Design Stage Using Neural Networks," *Journal of Computing in Civil Engineering*, ASCE, Vol. 11, No. 4, October (1997), pp. 217 – 223.
- 4) Elazouni, A., and Abd El-Razek, M., "Adapting Lift-Slab Technology to Construct Submerged Pile Caps," *Journal of Construction Engineering and Management*, ASCE, Vol. 126, No. 2, April (2000), pp. 149 – 157.
- 5) Elazouni, A., and Metwally, F., "D-SUB: Decision Support System for Subcontracting Construction Works," *Journal of Construction Engineering and Management*, ASCE, Vol.126, No. 3, June (2000), pp. 191 – 200.
- 6) Elazouni, A., Raslan, M., "Foot-bridge: Project to Implement Management Functions at AASTMT," *Journal of Professional Issues in Engineering Education & Practice*, ASCE, Vol. 129, No. 1, Jan. (2003), pp 44 – 51.
- 7) Elazouni, A., and Gab-Allah, A., "Finance-Based Scheduling of Construction Projects using Integer Programming," *Journal of Construction Engineering and Management*, ASCE, Vol. 130, No. 1, Jan. (2004), pp. 15-24
- 8) Elazouni, A., Ali, A., and Abd-Elrazik, R., "Estimating the Acceptability of New Horizontal Formwork Systems Using Neural Networks," *Journal of Construction Engineering and Management*, ASCE, Vol. 131, No. 1, Jan. (2005), pp. 33-41.
- 9) Elazouni, A., and Metwally, F., "Finance-Based Scheduling: Tool to maximize Project Profit using Genetic Algorithms," *Journal of Construction Engineering and Management*, ASCE, Vol. 131, No. 4, April (2005), pp. 400 – 412.
- 10) Elazouni, A., "Classifying Construction Contractors Using Unsupervised-Learning Neural Networks," *Journal of Construction Engineering and Management*, ASCE, Vol. 132, No. 12, Dec. (2006), pp. 1242-1253.
- 11) Elazouni, A., and Metwally, F., "Expanding Finance-Based Scheduling to Devise Overall-Optimized Project Schedules," *Journal of Construction Engineering and Management*, ASCE, Vol. 133, No. 1, Jan. (2007), pp. 86-90.
- 12) Elazouni, A., and Shaikh, A., "Simulation Model for Determining Maintenance Staffing in Higher-Education Facilities," *Journal of Performance of Constructed Facilities*, ASCE, Vol. 22, No. 1, Jan. (2008), pp. 54-61.
- 13) Elazouni, A., "Heuristic Method for Multi-Project Finance-Based Scheduling," *Construction Management and Economics*, Vol. 27, No. 2, (2009), pp. 199-211.
- 14) Ali, M., and Elazouni, A., "Finance-based CPM/LOB Scheduling of Projects with Repetitive Nonserial Activities," *Construction Management and Economics*, Vol. 27, No. 9, (2009), pp. 839-856.
- 15) Abido, M., and Elazouni, A. "Precedence-preserving GAs Operators for Scheduling Problems with Activities' Start Times Encoding," *Journal of Computing in Civil Engineering*, ASCE, Vol. 24, No. 4, July (2010), pp. 345-356.
- 16) Abido, M., and Elazouni, A. "Multiobjective Evolutionary Finance-based Scheduling: Entire Projects' Portfolio," *Journal of Computing in Civil Engineering*, ASCE, Vol. 25, No. 1, (2011), pp. 85-97.

- 17) Elazouni, A., Abdel-Wahhab, O., "Progress Monitoring of Construction Projects using Pattern Recognition Techniques," *Construction Management and Economics*, Vol. 29, No. 4, (2011), pp. 355-370.
- 18) Elazouni, A. and Abido, M. "Multiobjective Evolutionary Finance-based Scheduling: Individual Projects within a Portfolio," *Automation in Construction*, Vol. 20, No. 7, (2011), pp. 755-766.
- 19) Alghazi, A., Selim, S., and Elazouni, A. "Performance of shuffled frog-leaping algorithm in finance-based scheduling," *Journal of Computing in Civil Engineering*, Vol. 26, No. 3, (2012), pp. 396-408.
- 20) Alghazi, A., Selim, S., and Elazouni, A. "Improved Genetic Algorithm for Finance-based scheduling," *Journal of Computing in Civil Engineering*, ASCE, Vol. 27, No. 4, (2013), pp. 379-394.
- 21) Elazouni, A., and Abido, M. "Contractor-finance decision-making tool using multi-objective optimization," *Canadian Journal of Civil Engineering*, Vol. 40, No. 10, (2013), pp. 961-971.
- 22) Elazouni, A., and Abido, M. "Enhanced trade-off of construction projects: Finance-resource-Profit", *Journal of Construction Engineering and Management*, ASCE, Vol. 140, No. 9, (2014).
- 23) Abdul Rahman, M., and Elazouni, A., "Devising extended-duration schedules of enhanced resource leveling", *Canadian Journal of Civil Engineering*, Vol. 42, No. 8, (2015), pp. 552-562.
- 24) Elazouni, A., Alghazi, A. and Selim, S. "Finance-based scheduling using meta-heuristics: discrete versus continuous optimization problems.", *Journal of Financial Management of Property and Construction*, Vol. 20, No. 1, (2015), pp. 85-104.
- 25) Gajpal Y., and Elazouni, A. "Enhanced heuristic for finance-based scheduling of construction projects", *Construction Management and Economics*, Vol. 33, No. 7, (2015), pp. 531-553.
- 26) El-Abbasy, M., Elazouni, A., and Zayed, T. "MOSCOPEA: Multi-objective construction scheduling optimization using Elitist Non-Dominated Sorting Genetic Algorithm," *Automation in Construction*, Vol. 71, (2016), pp. 153-170.
- 27) El-Abbasy, M., Elazouni, A., and Zayed, T. "Generic scheduling optimization model for multiple construction projects," *Journal of Computing in Civil Engineering*, Vol. 31, No. 4, (2017).
- 28) Ahmed, M., Zayed, T., Elazouni, A. "Assessment of the impact of changing activities' start times on cash-flow parameters," *International Journal of Advanced Robotics and Automation*, 3(2), (2018), pp 1-16.
- 29) El-Abbasy, M., Elazouni, A., and Zayed, T. "Finance-based scheduling multi-objective optimization: Benchmarking of evolutionary algorithms," *Automation in Construction*, Vol. 120, (2020), pp. 1-16.
- 30) Al-Mawli, B., Al-Alawi, M., Elazouni, A., and Almamun, A. "Construction SMEs safety challenges in water sector in Oman", *Safety Science Journal*, Vol 136, April 2021.
- 31) Abido, M., and Elazouni, A. "Modified multi-objective Evolutionary Programming algorithm for solving project scheduling problems," *Expert Systems with Application*, Vol (183), 2021, 10.1016/j.eswa.2021.115338.
- 32) Elazouni, A., and Gajpal Y., and Fares, A. "Negotiating win-win procurement arrangements between construction contractors and subcontractors," *Automation in Construction*, 146, 2023, 104676.
- 33) Fares, A., Elazouni, A., and Al-Alawi, M. "Finance-based Scheduling for Cash-flow Management of Maintenance Portfolios: Multi-objective Optimization Approach," *Decision Making: Applications in Management and Engineering*, Vol. 7, Issue 2, 2024, pp. 355-379.
- 34) Fares, A., Elazouni, A., and Al-Alawi, M. "Using game theory to negotiate win-win payment terms between contractors and subcontractors," *Journal of construction Engineering and Management*, Accepted.

### Conference papers:

- 1) Elazouni, A., "A knowledge-based Approach for Decisions regarding Maintenance Contracting," Proceedings of the 1st Transportation Specialty Conference, Canadian Society for Civil Engineering, Edmonton, Canada, Vol. III-b (1996), pp. 37–48.
- 2) Elazouni, A., and Gab-Allah, A., "A Framework for developing Proactive Approaches for Concurrent Construction," Proceedings of the 6th International Conference for Building and Construction (Inter Build 99), Cairo, (1999), pp. 407-417
- 3) Elazouni, A., El-Kasaby, S., and Metwally, F., "A Decision Support System for Maximizing Contractor Actual Profitability," Proceedings of the 6th International Conference for Building and Construction (Inter Build 99), Cairo, (1999), pp. 393 – 405.
- 4) Elazouni, A. "Masterformat-based System for Evaluating the Performance of Construction Projects using Backward Chaining," Proceedings of the 6th Saudi Engineering Conference, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia, Vol. 1 (2002), pp. 5 - 19.
- 5) Basha, I., Gab-Allah, A., and Elazouni, A. "Project-based Course for Practicing Construction Project Management," Proceedings of the 6th Saudi Engineering Conference, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia, Vol. 1 (2002), pp. 289 – 302.
- 6) Elazouni, A. "Comparison of Cluster Analysis and Unsupervised-Learning Neural Networks in Classifying Construction Contractors" Proceedings of the 1st International Construction Specialty Conference, Canadian Society for Civil Engineering, Calgary, Canada, May 23-26, 2006.
- 7) Elazouni, A. "Finance-based Scheduling: A potential enhancement of construction scheduling techniques" Proceedings of the 2007 Construction research congress, ASCE, Grand Bahama Island, Bahamas, May 6-8, 2007.
- 8) Elazouni, A., Abdel-Wahhab, O., "Progress Monitoring of Erection of Off-Site Produced Units Using Pattern Recognition " Proceedings of Construction Management and Economics 25th Anniversary Conference, University of Reading, UK, July 16-18, 2007.
- 9) Elazouni, A., Abdel-Wahhab, O., "Progress Monitoring of Construction Projects Using Neural Networks Pattern Recognition" Construction Research Congress CRC, Seattle, USA, April 5-7, 2009.
- 10) Abido, M., and Elazouni, A., "Improved crossover and mutation operators for Genetic-algorithm project scheduling," 2009 IEEE Congress on Evolutionary Computation, Trondheim, Norway, May 18-21, 2009.
- 11) Elazouni, A., Abdel-Wahhab, O., "Using statistical pattern recognition to monitor the erection progress of off-site produced units" 7th joint Conference of APSEC and 2nd EACEF, Langkawi, Malaysia, Aug. 4-6, 2009.
- 12) Elazouni, A. and Abido, M. "Finance-based Scheduling of Multiple Construction Projects using Multiobjective Evolutionary Algorithms" 2nd International Construction Specialty Conference, Canadian Society of Civil Engineers, St. John's, Canada, May 27-30, 2009.
- 13) Abdel-Wahhab, O., and Elazouni, A., "Progress Monitoring of Construction Projects Using Statistical Pattern Recognition" Construction Research Congress CRC, Banff, Canada, pp. 1204-1213, May 8-10, 2010.
- 14) Abido, M., and Elazouni, A., " Multiobjective evolutionary Finance-based scheduling: the entire projects' portfolio," Proceedings of The International Conference on Computing in Civil and Building Engineering, W. Tizani (Editor), Nottingham, U.K, University of Nottingham Press, Paper 200, PP. 399, June 30-July 2, 2010.

- 15) Ahmed, M., Elazouni, A., and Zayed, T., "Assessment of Activities Criticality Related to Cash Flow Parameters" 3rd International/9th Construction Specialty Conference, Canadian Society of Civil Engineers, Ottawa, Canada, June 14-17, 2011.
- 16) El-Abbasy, M.S., Zayed, T., and Elazouni, A., "Finance-Based Scheduling for Multiple Projects with Multimode Activities", Proceedings of the Construction Research Congress (CRC), West Lafayette, IN, USA, May 21 – 23, 2012.
- 17) Ahmed, M., Zayed, T., and Elazouni, A., "Application of Monte Carlo simulation with activity start times to determine cash flow parameters" 4th Construction Specialty Conference, Canadian Society of Civil Engineers, Montréal, Québec, Canada, May 29 to June 1, 2013.
- 18) Elazouni, A. "Optimized Cash-flow: Opportunities for Finance Solutions for Contractors and Owners" Annual meeting of the American Association of Cost Engineers, June 16-19, New Orleans, USA, 2019.
- 19) Fares, A., Elazouni, A., Al-Shihabi, S., and Al-Alawi, M. "Schedule Optimization for Cash Flow Management of Owner Portfolios" Proceedings of the 8th International Conference on Civil Structural and Transportation Engineering (ICCSTE'23), Ottawa, Canada, June 04-06, 2023.
- 20) Elazouni, A., and Fares, A. "New payment provision for win-win negotiations between contractor and subcontractors" Annual meeting of the American Association of Cost Engineers, June 11-13, Chicago, USA, 2023.
- 21) Fares, A., Elazouni, A., and Al-Alawi, M. "Budget-constrained scheduling of multiple projects within owners' portfolios using multi-objective optimization," Canadian Society of Civil Engineering conference, June 5-7, Niagara Falls, Canada, 2024.

#### **Discussions and closures:**

- 1) Elazouni, A. "Performance of Shuffled Frog-Leaping Algorithm in Finance-Based Scheduling." by E. Fallah-Mehdipour; O. Bozorg Haddad; and M. A. Mariño, Closure by Ashraf Elazouni, Journal of Computing in Civil Engineering, ASCE, Vol. (26), No. 3, (2012), pp. 396-408.

#### **Issued Patents:**

- 1) Elazouni, A., "Discrete-event Simulation-Based Method for Staffing Highway Maintenance Crews" U.S.A Patent No. 5,617,342, (1997).
- 2) Elazouni, A., "Method and Apparatus for Finance-Based Scheduling of Construction Projects" U.S.A Patent No. 7,644,007 (2010).
- 3) Abido, M., and Elazouni, A., "Method of generating precedence-preserving crossover and mutation operations in Genetic algorithms" U.S.A Patent No. 8,250,007 (2012).
- 4) Elazouni, A., and Abdel-Wahhab, O., "Process scheduling optimization method" U.S.A Patent No. 8,260,648 (2012).