

Wassel AL-Bodour

Curriculum Vitae

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Education

- May 2010 **PhD, Civil Engineering**, Geotechnical Engineering, The University of Akron, Akron, OH
Dissertation: Development of Analysis and Design Method for Slope Stabilization Using Drilled Shafts
- Jun 2005 **Masters of Civil Engineering**, Geotechnical Engineering, Jordan University of Science and Technology,
Department of Civil Engineering, Irbid, Jordan
Thesis: "Seismic Hazard Assessment and Mitigation of Earthquake Risk in United Arab Emirates (UAE)"
- Jan 1998 **Bachelor of Civil Engineering**, Geotechnical Engineering, Jordan University of Science and Technology,
Department of Civil Engineering, Irbid, Jordan

Work Experience

- 2022 - Present **Associate Professor**, The University of Jordan, Amman, Jordan
2021 – 2023 **Chair**, Department of Civil Engineering, The University of Jordan, Amman, Jordan
- April 2014 – August 2022 **Assistant Professor**, The University of Jordan, Amman, Jordan
April 2013 – August 2014 **Assistant Professor**, King Abdul-Aziz University, Jeddah, KSA
Oct 2010 – Oct 2012 **Senior Staff Engineer**, Geosyntec Consultants, Oakbrook IL
- Foundations vibrations
 - Dynamic Liquefaction assessment
 - Finite element Analysis
 - Soil Instrumentation
 - Field Testing
 - Soil and Rock Exploration
 - Geotechnical analysis including DMM elements, slope stability, settlement analysis and finite element analysis
 - Geo-Environment and Landfills
- 2010 **Civil Engineer**, E L Robinson, Charleston WV
- Slope stability analysis and stability of bridge abutments
 - Earth pressure
 - Geotechnical capacity of deep and shallow foundations
- Aug 2006 – March 2010 **Research Assistant**, Department of Civil Engineering, The University of Akron, Akron, OH
- Slope stabilization using a row of drilled shaft/ODOT project
 - Full-scale Loading test for Slope-Pile system/ODOT project
 - Instrumentation and mentoring /ODOT project
 - Numerical Modeling using finite element method for geotechnical application. Used software is ABAQUS/ODOT project
 - Non-Linear Analysis (Materials, Forces, BCs, and Geometry)

- Static, Dynamic, Soils and Flow
- Elastic-Plastic analysis

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Sep 2001– Aug 2006 **District Manager**, Prince Hussein Bin Abdallah Municipality, AL-Mafraq, Jordan

Duties included the following tasks:

- Urban Planning management
- Projects management
- Tenders and bids management
- Municipal affairs management

Dec 2000 –Feb 2001 **Material Engineer**, Arab Center for Engineering Studies, Amman, Jordan

Duties included the following tasks:

- Material Testing
- Geotechnical Studies
- Quality Control

Aug 1998 –Aug 1999 **Supervising Engineer**, Modern Consultant (Consulting Engineering Office), Amman, Jordan

Training Courses

- Development of Excellence in Assessment Leadership (IDEAL/ABET scholar), Jeddah, KSA
- HAZWOPER/OSHA refresher, Compliance Solutions, Schaumburg, IL, USA
- HAZWOPER/OSHA, Compliance Solutions, Schaumburg, IL, USA
- LRFD Foundation, The Ohio Department of Transportation, Cleveland, OH, USA
- Mechanically Stabilized Earth Walls & Reinforced Soil Slopes, The University of Akron, Akron, OH, USA

Special Skills

- High motivation, detail oriented, and excellent organization skills
- Outstanding oral and written communication skills
- Exceptional leadership and public speaking skills
- Software
 - Ensoft
 - ABAQUS (Finite Element Modeling)
 - PLAXIS
 - GEOSTUDIO
 - SHAKE 2000 (Soil dynamics)
 - GStable, Stable for Windows
 - Computer programming
 - Visual Basic Programming

- Fortran Programming
- Languages:
 - Arabic : Native
 - English: Second Language

Master Theses Supervision

- Soil dynamic hysteretic loops
- Soil capacity using limit analyses and upper/lower bounds theory
- Stress wave propagation in soils and rock
- Geotechnical Earthquakes and seismic hazard assessment
- Landslides characterization and stabilization

Publications

- W Al Bodour, B Tarawneh, Y Al Mahadin, M Taamneh. Experimental-Correlative Framework to Evaluate Critical State Deformability Parameters and Free Swelling Index of Cohesive Soils Using Gene Expression Programming. *International Review of Civil Engineering (IRECE)* 14 (1), 16-30
- W Al Bodour, S Hanandeh, M Hajij, Y Murad. Development of Evaluation Framework for the Unconfined Compressive Strength of Soils Based on the Fundamental Soil Parameters Using Gene Expression Programming and Deep Learning Methods. *Journal of Materials in Civil Engineering* 34 (2), 04021452
- S Hanandeh, W Al-Bodour, M Hajij. A Comparative Study of Soil Liquefaction Assessment Using Machine Learning Models. *Geotechnical and Geological Engineering*
- KAD Bsisu, W Al-Bodour. Evaluation of Shear Strength Parameters and Deformability of Marly formation in Amman. *ARPJ Journal of Engineering and Applied Sciences* 17 (19), 1773-1795
- AL Bodour, Bashar Tarawneh, Yasmin Murad. "Gene Expression Programming: A Model to Predict the Standard Penetration Test N60 Value from Cone Penetration Test Data." *Journal of Soil Mechanics and Foundation Engineering* (2020)
- Wassel AL Bodour, Yasmin Murad, Rana Imam, Yahia AL-Smadi. "Shear Strength Investigation of the Carbon Fiber Reinforced Polymer-Wrapped Concrete Beams using Gene Expression Programming and Finite Element Analysis." *Journal of Structural Integrity and Maintenance* (2020)
- Tarawneh, Bashar, Wassel AL Bodour, Anis Shatnawi, and Khaled Al Ajmi. "Field evaluation and behavior of the soil improved using dynamic replacement." *Case Studies in Construction Materials* 10 (2019): e00214.
- Tarawneh, Bashar, Wassel AL Bodour, and Khaled Al Ajmi. "Intelligent Computing Based Formulas to Predict the Settlement of Shallow Foundations on Cohesionless Soils." *The Open Civil Engineering Journal* 13, no. 1 (2019).
- Y Murad, W AL-Bodour, H Abu-Hajar. "Cyclic Behavior of RC Beam-Column Joints made with Sustainable Concrete." *International Review of Civil Engineering (IRECE)* 10 (6)
- Anis Shatnawi, Wassel AL Bodour, Mu'tasim Abdel-Jaber. "Empirical Formulas to Predict the Axial Capacity of Driven Piles Using in-Situ Dynamic Load Testing Data" *International Journal of Machine Learning and Computing* 9

- Allouzi, Rabab, Wassel AL Bodour, Amer Alkloub, and Bashar Tarawneh. "Finite-element model to simulate ground-improvement technique of rapid impact compaction." *Proceedings of the Institution of Civil Engineers-Ground Improvement* 172, no. 1 (2018): 44-52.
- Tarawneh, Bashar, and Wassel AL Bodour. "Liquefaction mitigation of desert sand using rapid impact compaction." *Arabian Journal of Geosciences* 11, no. 12 (2018): 309.
- Tarawneh, Bashar, Wassel Al Bodour, and Teruhisa Masada. "Inspection and risk assessment of mechanically stabilized earth walls supporting bridge abutments." *Journal of Performance of Constructed Facilities* 32, no. 1 (2017): 04017131.
- Tarawneh, Bashar, Wassel AL Bodour, Anis Shatnawi, and Khaled Al Ajmi. "Field evaluation and behavior of the soil improved using dynamic replacement." *Case Studies in Construction Materials* 10 (2019): e00214.
- Al Bodour, Wassel M., and Robert Y. Liang. "Field study of drilled shafts behavior during surcharge load induced slope movement." In *GeoFlorida 2010: Advances in Analysis, Modeling & Design*, pp. 1837-1846. 2010.
- Rabab'ah, Samer R., John C. Niedzielski, Assem A. Elsayed, Wassel al Bodour, and Dean B. Durkee. "Comparison of drilled shaft design methods for drilled shafts in sand, coarse gravel, and cobble soils." In *Geo-Frontiers 2011: Advances in Geotechnical Engineering*, pp. 212-221. 2011.
- Liang, Robert Y., Wassel Al Bodour, Mohammad Yamin, and Arash Erfani Joorabchi. "Analysis Method for Drilled Shaft–Stabilized Slopes Using Arching Concept." *Transportation Research Record* 2186, no. 1 (2010): 38-46.
- Liang, Robert Y., Mohammad Yamin, and Wassel M. Al Bodour. "Lesson from instrumented slope stabilization project using drilled shafts." In *Contemporary Topics in Deep Foundations*, pp. 103-110. 2009.
- Al Bodour, W. "Development of design method for slope stabilization using drilled shaft." PhD diss., Ph. D. Dissertation, Department of Civil Engineering, The University of Akron, 2010.
- Y Murad, W Al Bodour, A Ashteyat. Seismic Retrofitting of Severely Damaged Connections made with Recycled Concrete using CFRP sheets. *Frontiers of Structural and Civil Engineering* 14 (2), 554-568