Bashar Tarawneh, Ph.D., P.E
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Dr. Tarawneh is a Ph.D. holder and a licensed Professional Engineer (P.E) who has more than eighteen years of experience in Civil Engineering. His experience includes soil investigation, geotechnical engineering management, shallow and deep foundations, ground improvement, earth retaining structures, liquefaction evaluation and mitigation, roadway design, and project management.

Currently, he is an associate professor of Civil Engineering at the University of Jordan in Amman, Jordan. He has been teaching courses and conducting research in the area of Civil and Geotechnical Engineering. His research interests include analytical aspects of soil-pipe interactions, inspection and risk assessment of structures, field performance and geotechnical analysis of shallow and deep foundations, settlements of shallow foundation on cohesionless soils, correlation of Standard Penetration Test (SPT) and Cone Penetration Tests (CPT), design and performance of Mechanically Stabilized Earth (MSE) Wall, application of artificial neural networks in civil engineering, resilient modulus prediction from FWD results, and ground improvement.

Dr. Tarawneh is a member of the Jordanian Higher Education Accreditation Commission (HEAC). He also severs as a program evaluator with the Accreditation Board for Engineering and Technology (ABET). He is an elected board member of the Jordanian Engineers Association (JEA). Dr. Tarawneh has an excellent professional expertise in writing technical reports, technical and specialized papers, and presentations. Throughout his professional career, he authored /co-authored several highly specialized technical papers and reports. He serves as a reviewer for several specialized civil engineering journals.

EDUCATION

- Ph.D., Civil Engineering, Ohio University, 2005
- M. S, Civil Engineering, Ohio University, 2002
- B. Sc., Civil Engineering, Mutah University, Jordan, 2000. Ranked 1st in a class of 65 students.

EXPERIENCE

- **University of Jordan, Amman, Jordan (September, 2010-Present):**
  - Associate Professor of Civil Engineering, August 2015- Present.
  - Civil Engineering Department Chair, September, 2016-September, 2018
  - Assistant Professor of Civil Engineering, (2010- 2015).

Duties included:

- Teaching graduate and undergraduate courses in Civil Engineering.
- Performing research in the field and analytical aspects of drainage pipes, inspection and risk assessment of highway culverts, field performance and geotechnical analysis of shallow

foundations, deep and shallow foundations, ground improvement, soil reinforcement and improvement, and In-situ testing and site characterization.
- Published several articles in peer-reviewed journals.
- Served on thesis examination committees for graduate students.
- Serving on committees to amend the department rules and regulations.
- Representing the Civil Eng. Dept. at the College of Engineering Council.
- Program Evaluator with Accreditation Board for Engineering and Technology, USA.
- Represented the Civil Engineering Department at several conferences.

- **Technical and Business Development Manage**r, Menard Vibro Middle East Contractor, Dubai, UAE, August 2013-September 2014.
  - Make decisions on engineering specifications and procedures.
  - Assessment of best applicable soil improvement techniques utilizing Dynamic Compaction/Dynamic Replacement (DC/DR), Stone Columns, and Vibrocompaction.
  - Issuing technical and financial proposals for ground improvement work.
  - Review and evaluation of soil investigation reports and engineering testing results.
  - Direct involvement with contractors and consultants during the execution of the ground improvement work.
  - Negotiation of financial proposals.
  - Developing new businesses by introducing the company to consultants and contractors.

- **Senior Foundation Engineer**, Ohio Department of Transportation (ODOT), Columbus, Ohio, October 2008- September 2010. Duties included:
  - Writing project scope, design criteria, quality control management, and establishing selection criteria for selecting the construction contractor and designers.
  - Technically involved in the resolution of design problems that include performing field investigation or inspections, detailed design work, and detailed checking of design computations done by others.
  - Ensure design solutions incorporate best value engineering principles
  - Bridge foundations design and review including deep and shallow foundations.
  - Temporary shoring design to support excavation adjacent to structures.
  - Review of design calculations and shop drawings.
  - Updating ODOT's design manual, standards, policies, and specifications.
  - Provide technical support to the design consultant and the ODOT's districts.

- **Project Engineer**, **HNTB**, Inc Columbus, Ohio July 2005-September 2008. **HNTB** is a multidisciplinary firm known and respected for their work in transportation, bridges, geotechnical, aviation, architecture, urban design and planning, environmental engineering, water and construction services. Duties included:
  - Roadway Design projects ranging from widening urban streets and intersections to the construction of new rural and urban freeways and interchanges.
  - Developing preliminary design, alternate geometric alignments, typical sections, cross sections, profiles, earthwork calculations, utilities, maintenance of traffic, right-of-way impacts, and cost estimates.

- Develop and review bridge foundation design reports and bridge structure type studies.
- Shoring design to support excavation and adjacent structures.
- Design and review of retaining structures.
- Bridge foundations design including driven piles drilled shafts and spread footings.
- Drainage design projects ranging from conceptual studies to final design. Technical analysis, as well as the preparation of construction plans, cost estimates, and drainage reports.
- Project management includes scheduling, budgeting, communications with clients and other firms, marketing and developing new business.
- Direct and coordinate activities of project personnel to ensure project progresses on schedule and within budget.

- **Research Associate**, Ohio Research Institute for Transportation and Environment (ORITE), Athens, Ohio, September 2000- June 2005. Duties included:
  - Working on a state and federal funded research projects related to drainage pipes and culverts.
  - Finite element modeling of drainage pipes and culverts.
  - Artificial Neural Network and Statistical analysis of collected data.
  - Coordination and liaison with research funding agencies and the University.
  - Culvert field inspection, durability, and risk assessment.
  - Writing technical reports, technical papers, and presentations. Published several articles in peer-reviewed journals such as ASCE and TRB.

- **Site Engineer**, Ministry of Public Work and Housing, Karak, Jordan, December 1999- August 2000.

- **Engineer Trainee**, Arab Contractors Company- Cairo, Egypt, May 1999- September 1999.

AFFILIATIONS

- Registered Professional Engineer (P.E.), State of Ohio, Registration # 71886
- Licensed Foundation Engineer, City of Dubai, UAE
- Member of the American Society of Civil Engineers (ASCE)
- Member of Jordanian Society of Civil Engineers

SOFTWARE KNOWLEDGE

- Plaxis, Abaqus
- Neurosolution, GeneXproTools, Eureqa - Formulize
- Microstation J, Microstation V8, and GEOPAK
- MSEW, Driven, and SPW911
- LPILE, GRLWEAP
- CDSS Design Software for the culverts, storm sewer, and ditches design.
- Culvert Analysis and Design Software using finite elements (CANDE).
- Knowledge in the Statistical Package for Social Sciences Software (SPSS)
- Microsoft knowledge includes M.S Project, Microsoft Word, Excel, and PowerPoint.

ACADEMIC HONORS

- First among a class of 65 (B. Sc.), Civil Engineering, Mutah University, Jordan, 2000
- Awarded a full tuition waiver and a research assistant grant from Ohio University, Ohio, 2000-2005

JOURNAL REFEREEING

Dr. Tarawneh served as a reviewer for the following Journals:

1. Canadian Journal of Geotechnical Engineering
2. Soils and Foundations Journal
3. Geotechnical Testing Journal
4. Marine Georesources & Geotechnology Journal
5. Construction and Building Materials
6. European Journal of Environmental and Civil Engineering
7. International Journal of GEOMATE
8. International Journal of Geo-Engineering
9. Jordan Journal of Civil Engineering
10. Journal of Materials in Civil Engineering
11. Journal of Traffic and Transportation Engineering
12. Journal of Neural Computing and Applications
13. The Open Civil Engineering Journal
14. Science Journal of Civil Engineering and Architecture
15. Transportation Research Board
16. Transportation Geotechnics Journal

PUBLICATIONS

[1] Anis Shatnawi, Wassel AL Bodour, Mu'tasim Abdel-Jaber, and **Bashar Tarawneh** (2019). 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(2), accepted for publications.

[2] Allouzi, R., AL Bodour, W., Alkloub, A. and **Tarawneh, B.** (2018). Finite element model to simulate ground improvement technique of rapid impact compaction Proceedings of the Institution of Civil Engineers - Ground Improvement, ahead of print.

[3] **Tarawneh, B.** & Bodour, W.A.L. (2018). Liquefaction mitigation of desert sand using rapid impact compaction. Arab J Geosci, DOI: https://doi.org/10.1007/s12517-018-3650-z

[4] **Tarawneh, B.**, Sbitnev, A., & Hakam, Y. (2018). Estimation of pressuremeter modulus and limit pressure from Cone Penetration Test for desert sands. Construction and Building Materials, 169, 299-305.

[5] Shatnawi, A., Abdallah, S. G., & **Tarawneh, B.** (2018). Seismic Behavior of Hybrid Post-Tensioned Cast in Place Concrete Shear Walls. Arabian Journal for Science and Engineering, 1-15.

[6] **Tarawneh, B.** (2018). Gene expression programming model to predict driven pipe piles set-up. International Journal of Geotechnical Engineering, 1-7.

[7] **Tarawneh, B.**, AL Bodour, W., & Masada, T. (2017). Inspection and Risk Assessment of Mechanically Stabilized Earth Walls Supporting Bridge Abutments. *Journal of Performance of Constructed Facilities*, *32*(1), 04017131.

[8] Shatnawi, A., Almasabha, G., & Tarawneh, B. (2017). Structural Behavior of Concrete Box Culverts under Deep Burial. *Journal of Pipeline Systems Engineering and Practice*, *8*(4), 04017025.

[9] **Tarawneh, B.**, & Hakam, Y. (2017) Performance of Rapid Impact Compaction as a Middle-Deep Ground Improvement Technique. *Proceedings of the 19th International Conference on Soil Mechanics and Geotechnical Engineering*, Seoul, South Korea

[10] **Tarawneh, B.**, Sbitnev, A., & Hakam, Y. (2017). Lessons learned from 11 million m^2 of dynamic compaction and replacement. Proceedings of the Institution of Civil Engineers-Ground Improvement, 1-10.

[11] **Tarawneh, B.**, Nusairat, J., & Hakam, Y. (2017). Load testing and settlement of shallow foundation on desert sands. *Proceedings of the Institution of Civil Engineers-Geotechnical Engineering*, 1-12.

[12] **Tarawneh, B.** (2017) Decision Tree for the Selection of Appropriate Ground Improvement Technique in the Arabian Gulf Region. 4th International Conference on Geology and Geoscience, Dubai, UAE

[13] **Tarawneh, B.** (2017). Predicting standard penetration test N-value from cone penetration test data using artificial neural
networks. *Geoscience Frontiers*, 8(1), 199-204.

[14] Shatnawi, A., Almasabha, G., & **Tarawneh, B**. (2017). Structural Behavior of Concrete Box Culverts under Deep Burial. *Journal of Pipeline Systems Engineering and Practice*, 8(4), 04017025.

[15] **Tarawneh, B**. and Matraji M. (2014)," Ground improvement using rapid impact compaction: case study in Dubai, UAE, *Journal of the Croatian Association of Civil Engineer*, Vol. 66, No.11, pp.1007-1014.

[16] **Tarawneh, B.** (2014)," Correlation of Standard and Cone Penetration Tests for Sandy and Silty Sand to Sandy Silt Soil", *Electronic Journal of Geotechnical Engineering*, Vol. 19, Bund W, pp. 6717-6727.

[17] Tarawneh, B., & Matraji, P. M. Evaluation the Effectiveness of Rapid Impact Compaction (RIC) as a Ground Improvement. The 6th Jordanian International Civil Engineering Conference, Amman, Jordan.

[18] **Tarawneh, B**. and Munir Nazzal (2014), "Optimization of Resilient Modulus Prediction from FWD Results using Artificial Neural Network", *Periodica Polytechnica, Civil Engineering* Vol.58, No.2, pp. 143-154.

[19] **Tarawneh, B**. and Imam R. (2014), "Regression versus artificial neural networks: Predicting pile setup from empirical data", *KSCE Journal of Civil Engineering*, Vol. 18, No.4, pp. 1018-1027.

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[21] **Tarawneh, B.** (2013), "Pipe Pile Setup: Database and Prediction Model using Artificial Neural Network", *Soils and Foundations*, Vol.53, No.4, pp.607-615.

[22] Tatari, O., Sargand, S.M., Masada, T. and **Tarawneh, B**. (2013), "Neural Network Approach to Condition Assessment of Highway Culverts: Case Study in Ohio", *Journal of Infrastructure Systems, ASCE*, Vol. 19, No.4, pp.409-414.

[23] **Tarawneh, B**., Masada T., and Sargand, S.M (2013)," Estimated and Measured Settlements of Shallow Foundation Supporting Bridge Substructure", *Jordan Journal of Civil Engineering*, Vol. 7, No.2, pp. 224-235.

[24] Imam, R. and **Tarawneh B**. (2012), "Exploring BRT Ridership Drivers: An Empirical Study on European Systems", *Jordan Journal of Civil Engineering*, Vol. 6, No.2, pp. 234-242.

[25] Shad M. Sargand, Teruhisa Masada, **Bashar Tarawneh,** and Doug Gruver (2008), " Deeply Buried Thermoplastic Pipe Field Performance for over Five Years", *Journal of Geotechnical and Geoenvironmental Engineering, American Society of Civil Engineers*, Vol. 134, No. 8, pp. 1181-1191.

[26] Teruhisa Masada, Shad M. Sargand, **Bashar Tarawneh**, Gayle F. Mitchell, and Doug Gruver (2007), "Inspection and Risk Assessment of Concrete Culverts under Ohio's Highways", *Journal of Performance of Constructed Facilities*, Vol.21, No.3, pp 223-233.

[27] Teruhisa Masada, Shad M. Sargand, **Bashar Tarawneh**, Gayle F. Mitchell, and Doug Gruver (2006), **"**New Inspection and Risk Assessment Methods for Metal Highway Culverts in Ohio" Transportation Research Record: *Journal of the Transportation Research Board*, No. 1976, pp. 141-148.

[28] Shad M. Sargand, Teruhisa Masada, **Bashar Tarawneh**, and Doug Gruver (2005), "Field Performance and Analysis of Large-Diameter High-Density Polyethylene Pipe under Deep Soil Fill," *Journal of Geotechnical and Geoenvironmental Engineering, American Society of Civil Engineers*, Vol. 131, No. 1, pp. 39-51.

[29] Gayle F. Mitchell, Teruhisa Masada, Shad M. Sargand, and **Bashar Tarawneh** (2005), "Risk Assessment and Updates of Inspection Procedures for Culvert", Report No. FHWA/OH-2005-002, Ohio Department of Transportation

[30] Shad M. Sargand, Teruhisa Masada, **Bashar Tarawneh**, and Hanna Yanni (2004), "Use of Soil Stiffness Gauge in Thermoplastic Pipe Installation," Journal *of Transportation Engineering, American Society of Civil Engineers*, Vol. 130, No.6, pp. 768-776.

[31] Shad M. Sargand, Teruhisa Masada, Kevin E. White, and **Bashar Al-Tarawneh** (2002), "1,050-mm (42-in) Diameter, Profile-Wall HDPE Pipes under Deep Soil Cover: Comparisons between Field Performance Data and Analytical Predictions," *Transportation Research Record* No. 1814, pp.186-196.

[32] Shad M. Sargand, Glenn A. Hazen, Teruhisa Masada, Donald J. Schehl, Alan Moran and **Bashar Al-Tarawneh (2002)**, "Field Verification of Structural Performance of Thermoplastic Pipe under Deep Backfill Conditions," Report No. FHWA/OH-2002/023, Ohio Department of Transportation.