TECHNICAL & PROFESSIONAL TRAINING:

Pile Driving Contractors Association (PDCA) - 8TH Biennial Professors' Driven Pile Institute (PDPI) Workshop, Utah State University, Logan, Utah, June 21-26, 2015.

Instructor Development Training Course, NHI Course No. 420018, Baton Rouge, LA, May 20-23, 2014.

LRFD for Highway Bridge Substructures and Earth Retaining Structures, NHI training course, Baton Rouge, LA, August 17-20, 2009.

Associates of Drilled Shaft Contractors (ADSC) - 2008 Foundation Engineering Faculty Workshop, Chattanooga, Tennessee, June 8-14, 2008.

Introduction to Mechanistic-Empir

CE 3300: Geotechnical Engineering I (Soil Mechanics)

CE 3350: Geotechnical Engineering Lab

CE 3400: Mechanics of Materials

CE 4300: Geotechnical Engineering II (Shallow Foundation)

CE 4310: Geotechnical Engineering III (Deep Foundation)

CE 7300: Advanced Geotechnical Engineering I

CE 7310: Advanced Geotechnical Engineering II

CE 7335: Soil Improvement and Stabilization

CE 7340: Theory and Practice of Geotechnical Laboratory Experiment

CE 7700: Applications and Design with Geosynthetics

CE 7700: Advanced Geotechnical In Situ Testing

CE 7701: Advanced Testing and Analysis of Deep Foundations

GRADUATE STUDENTS ADVICEMENT:

I advised and co-advised the following graduate students:

Ph.D. Students (11)

Hossein Alimohammadi, Ph.D. Candidate, working on *FE Numerical modeling to evaluate/quantify the benefits of geosynthetic reinforced pavements.*

Mohsen Amirmojahedi, Ph.D. Candidate, working on *FE Numerical Analysis and Analytical Methods to Evaluate the Pile Resistance from CPT Test Data.*

Allam Ardah, Ph.D. Candidate, Wworking on *Field Instrumentatio and Monitoring, and Finite Element Analysis of Geosynthetic Reinforced Soil – Integration Bridge System (GRS-IBS).*

Ahmad Souri, Ph.D. graduated Fall 2017, Dissertation: "*Numerical Evaluation of the Lateral Behavior of Vertical and Battered Pile Group Foundations Using 3-D Finite Element Modeling"*.

Shadi Hanandeh, graduated Fall 2016, Dissertation: "*Performance Evaluation of Instrumented Geosynthetics Reinforced Paved Test Sections built over weak subgrade using Accelerated Load Testing"*.

Fairouz Rousti, graduated Spring 2016, Dissertation: *"Numerical Simulation of Pile Installation and Following Setup Considering Soil Consolidation and Thixotropy"*.

Md. Nafiul Haque, graduated Fall 2015, Dissertation: "*Field Instrumentation and Testing to Study Set-Up Phenomenon of Driven Piles and Its Implementation in LRFD Design Methodology"*..

Jie Gu, PhD. graduated Fall 2011, Dissertation: "Com

Lie Wei, Ph.D. graduated Spring 2004, Dissertation: "Numerical Simulation and Field Verification of Inclined Piezocone Penetration Test in Cohesive Soils".

M.S. Students (18)

Md. Imran Hossain, M.S. student. Working on *using the in-situ CPT data for Subsurface Soil Classification and Evaluation of Different Soil Properties.*

Md. Habibur Rahman, M.S. student. Working on *Generating Synthetic CPT profile and Soil Boring from Surrounding Tests of same site for use on Pile Design.*

Abu Hakim Faisal, M.S. student. Working on *Site Variability and Laboratory/In-situ Testing Variability of Soil Properties in Geotechnical Engineering Design.*

Benjamin Fernandos, M.S. student. Working on *Field Instrumentatio and Monitoring of Geosynthetic Reinforced Soil – Integration Bridge System (GRS-IBS).*

Alicia Fortier, M.S., graduated Summer 2015. Thesis Title: *Calibration of Resistance Factors Needed In the LRFD Design of Drilled Shafts*.

Ayan Mehrouta, M.S., graduated Fall 2014. Thesis Title: *Evaluating the Influence of Moisture Variation on Resilient Modulus for Unsaturated Pavement Subgrades*.

Allam Ardah, M.S., graduated Fall 2014. Non-Thesis Project: "*Performance Evaluation of Cement treated/ stabilize very weak subgrade soils*".

Yida Zhang, M.S., graduated Summer 2012. Thesis Title: *Numerical study of Laterally Loaded*

PROFESSIONAL EXPERIENCE:

Professor, Research: Louisiana Transportation Research Center (LTRC), College of Engineering, Louisiana State University, Baton Rouge, Louisiana, (7/1/2013 to present)

Associate Professor, Research: Louisiana Transportation Research Center (LTRC), College of Engineering, Louisiana State University, Baton Rouge, Louisiana, (7/1/2008 to 6/30/2013)

Assistant Professor, Research: Louisiana Transportation Research Center (LTRC), College of Engineering, Louisiana State University, Baton Rouge, Louisiana, (7/1/2002 to 6/30/2008)

Adjunct Assistant, Associate and Professor: Civil and Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana, (10/1/2002 to present)

Research Associate, Louisiana Transportation Research Center (LTRC), Louisiana State University Baton Rouge, Louisiana, (10/1997 to 6/30/2002)

***Graduate Research Assistant**, Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana (8/1992 to 9/1997).*

***Senior Geotechnical and Material Engineer**: Arab Corporation for Engineering and Geotechnology, Amman, Jordan (5/1989 to 8/1992).*

***Structural Design Engineer**, Subhi Tabal Establishment, Amman, Jordan, (6/1988 to 5/1989).*

***Graduate Research/Teaching Assistant**, Department of Civil Engineering, Jordan University of Science and Technology, Irbid, Jordan, (9/1985 to 5/1988).*

Research Assistant:

Teaching Assistant:

***Training Engineer**, COWI Consulting Firm, Copenhagen, Denmark, summer 1984*. Worked in the design of prestressed concrete bridges.

HONORS:

Dean's List: - University of Jordan - several Times.
Honor List: - University of Jordan - several Times.

COMPUTER SKILLS:

Computer Systems: Main frame, Work stations, and PC computers
Operating Systems: UNIX, VMS, MS-DOS, MS-WINDOWS.
Language: FORTRAN, Visual Basic.
Softwares: ABAQUS, PLAXIS.
Word Processing: Word Perfect, Microsoft Word, Frame Maker, and LaTex
Spread Sheets: Excel, Quattropro
Graphics: Grapher, Surfer, xmgr, Sigmaplot, and Freelance.
Statistics: STATISTICA
Mathematics: MathCad

COURSES:

Advanced Geotechnical Engineering I; Advanced Geotechnical Engineering II; Ground Modification and Soil Stabilization ; Soil Dynamics and Earthquake Engineering; Theory of Plasticity, Viscoelasticity and Viscoplasticity; Solid and Continuum Mechanics; Finite Element Method, I, and II; Advanced Engineering Foundation; Advanced Material of Construction; Applied Mathematics for Engineering; Advanced Pavement Design; Highway Construction Materials; Prestressed Concrete Design; Matrix Analysis of Structures; Structural Stability; Structural Dynamics; Introduction to Structural Reliability; Engineering Analysis and Statistics; Numerical Methods in Geotechnical Engineering (aud); Principles of Soil Behavior (aud); Environmental Geotechnics (aud).

Soil Mechanics; Engineering Foundation; Reinforced Concrete Design I; Reinforced Concrete Design II; Structural Analysis I; Structural Analysis II; Structural Analysis III; Steel Design.

FUNDED PROJECTS:

Principal Investigator – "*Verification and Implementation of Set-Up Empirical Models in Pile Design*," funded by Federal Highway Administration (FHWA) and Louisiana Department of Transportation and Development (LA DOTD), $ 247,771, 08/01/2016-07/31/2018.

Principal Investigator – "*Incorporating the Site Variability and Laboratory/In-situ Testing Variability of Soil Properties in Geotechnical Engineering Design*," funded by Federal Highway Administration (FHWA) and Louisiana Department of Transportation and Development (LA DOTD), $ 476,813, 07/01/2016-12/31/2018.

Principal Investigator – "*Finite Element Analysis of the Lateral Load Test on Battered Pile Group at I-10 Twin Span Bridge*," funded by Federal Highway Administration (FHWA) and Louisiana Department of Transportation and Development (LA DOTD), $ 260,368, 03/01/2016-05/31/2018.

Principal Investigator – "*Monitoring of In-Service Geosynthetic Reinforced Soil (GRS) Bridge Abutments in Louisiana*," funded by Federal Highway Administration (FHWA) and Louisiana Department of Transportation and Development (LA DOTD), $ 302,200, 10/01/2014-12/31/2017.

Principal Investigator – "*In Situ Evaluation of Design Parameters and Procedures for Cementitiously Treated Weak Subgrades using Cyclic Plate Load Tests*," funded by Federal Highway Administration (FHWA) and Louisiana Department of Transportation and Development (LA DOTD), $ 294,679, 3/01/2013-09/30/2015. (Co-PI Dr. Qiming Chen).

Co-Principal Investigator – "Calibration of LRFD Geotechnical Axial (Tension and Compression) Resistance Factor ( ) for California." Funded by CALTRANS, $222,606, 01/01/2015 – 06/30/2017. (PI: Dr. Xinbao Yu – University of Texas at Arlington).

Principal Investigator – "*Accelerated Load Testing of Geosynthetic Stabilized/Rreinforced Subgrade/Base in Unpaved and Pavement Test Sections,"* funded by FHWA and LA DOTD, **$** 258,133, 01/01/2011-12/31/2015. (Co-PI Dr. Xiaochao Tang).

Principal Investigator – "*Field Instrumentation and Testing to Study Set-up Phenomenon of Piles Driven into Louisiana Clayey Soils*," funded by Federal Highway Administration (FHWA) and Louisiana Department of Transportation and Development (LA DOTD), $ 489,708, 01/01/2011-12/31/2015. (Co-PI Dr. Qiming Chen).

Co-Principal Investigator – "*An Integrated Computational and Experimental Study of Driven Pile Set-up in Soft Clays*." Funded by Board of Regents – Industrial Ties Research Subprogram (ITRS) program, $307,781 7/01/2012-6/30/2015. (PI: Dr. Carol Friedland, other Co-PIs: Drs. Gouping Zhang and Emerald Roider).

Co-Principal Investigator – "*Support Study for the Assessment of In-situ Test Technology for Construction Control of Base Courses and Embankments*." Funded by FHWA and LA DOTD, $83,200, 7/1/2001-12/31/2003 (P.I. Dr. Khalid Alshibli).

Co-Principal Investigator – "*Development of Models to Estimate the Subgrade and subbase Layers Resilient Modulus from In-Situ Devices Test Results for Construction Control*." Funded by FHWA and LA DOTD, $100,630, 1/1/2003 – 6/31/2004 (P.I. Louay Mohammad).

Co-Principal Investigator – "*Inclined Piezocone Penetration Aspects – Theoretical Formulation and Experimental Verification.*" Funded by National Science Foundation (NSF), CSM-9907951, $162,312, 10/1/1999-9/30/2003 (P.I. Dr. Mehmet Tumay).

Principal Investigator – "*LTRC Support for Geosynthetic Research at the Geosynthetic Engineering Laboratory*." Funded by FHWA and LA DOTD, $177,000, 7/1/2001-6/30/2002.

Principal Investigator – "*Evaluation of Consolidation Characteristics of Cohesive Soils from Piezocone Penetration Tests (PCPT).*" Funded by FHWA and LA DOTD, $125,580, 11/1/1999-12/31/2003.

Co-Principal Investigator – "*Evaluation of Bearing Capacity of Piles from Cone Penetration Tests*." Funded by FHWA and LA DOTD, $124,109, 5/15/1998-12/31/2001 (P.I. Dr. Hani Titi).

REFEREED JOURNAL PUBLICATIONS:

1. Haque, Md. N., Abu-Farsakh, M., and Zhang, Z., "Evaluation of Pile Capacity from CPT and Pile Setup Phenomenon," accepted for publication in the *International Journal of Geotechnical Engineering*.
2. Chen Q., **Abu-Farsakh, M.**, Hanandeh S., and Mohammad L., 2018 "Performance Evaluation of Geosynthetic Reinforced Flexible Pavement using Full-Scale Accelerated Loading Test," accepted for publication in *Geosynthetic International Journal*.
3. M., Haque, Md. N., **Abu-Farsakh, M.**, Tsai. C., and Zhang, Z., 2018 "A Load Testing Program on Large Diameter Open Ended Instrumented Test Piles to Evaluate the Design Parameters and Pile Setup," accepted for publication in the Journal of the Transportation Research Record, and for presentation in the 97th TRB annual meeting, January 2018.
4. Mehrotra A., **Abu-Farsakh M.,** and Gaspard G., 2018 "Development of Subgrade M_r Constitutive Models Based on Physical Soil Properties," *Journal of Road Materials and Pavement Design*, Vol. 19, No. 1, pp. 56–70,
5. **Abu-Farsakh, M.,** Souri, A., Voyiadjis, G., and Rosti, F., 2017 "Comparison of Static Lateral Behavior of Three Pile Group Configurations Using Three-Dimensional Finite Element Modeling," Canadian Geotechnical Journal.
6. Ardah A., **Abu-Farsakh, M.**, and Voyiadjis G., 2017 "Numerical evaluation of the performance of a Geosynthetic Reinforced Soil-Integrated Bridge System (GRS-IBS) under different loading conditions," *Geotextiles and Geomembranes*. Volume 45, Issue 6, pp. 558-569.
7. Ardah A., **Abu-Farsakh, M.**, and Chen Q., 2017 "Evaluating the performance of very weak subgrade soils treated/stabilized with cementitious materials for sustainable pavements," *Transportation Geotechnics*, Volume 11, pp. 107–119.
8. **Abu-Farsakh, M.,** Haque, Md. N., and Chen, Q., 2017 "Experimental Study to Evaluate the Effect of Consolidation Behavior on Pile Setup," ASTM International, Vol. 143, Issue 4.
9. Saghebfar M., **Abu-Farsakh, M.**, Ardah A., Chen Q., and Fernandez B. 2017 "Full-Scale Testing of Geosynthetic Reinforced Soil Integrated Bridge System," *Journal of the Transportation*

10. **Abu-Farsakh, M.,** Haque, Md. N., Tavera, E., and Zhang, Z., 2017 "Evaluation of Pile Setup from Osterberg Cell Load Tests and its Cost Benefit Analysis," *Journal of the Transportation Research Record*, Issue 2656, pp. 61-70.
11. Saghebfar M., **Abu-Farsakh, M.**, Ardah A., Chen Q., and Fernandez B., 2017 "Performance Monitoring of Geosynthetic Reinforced Soil Integrated Bridge System (GRS-IBS)," *Geotextiles and Geomembranes Journal*., Vol. 45, pp. 34-47.
12. **Abu-Farsakh, M.**, Haque Md. N., and Tsai C., 2017 "A Full-Scale Field Study for Performance Evaluation of Axially Loaded Large-Diameter Cylinder Piles with Pipe Piles and PSC Piles," *Acta Geotechnica*, Volume 12, Issue 4, pp 753–772.
13. Haque, Md. N., **Abu-Farsakh, M.,** Tsai, C., and Zhang, Z., 2016 "Load Testing Program to Evaluate Pile Setup Behavior for Individual Soil Layers and Correlation of Setup with Soil Properties," *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 143, Issue 4.
14. Rosti, F.., **Abu-Farsakh, M.,** and Jung J., 2016 "Development of Analytical Models to Estimate Pile Setup in Cohesive Soils Based on FE Numerical Analyses," *Geotechnical and Geological Engineering*, Vol. 34, Issue 4, pp. 1119 – 1134.
15. **Abu-Farsakh, M.**, Hanandeh S., Mohammad L., and Chen Q., 2016 "Performance of Geosynthetic Reinforced/Stabilized Paved Roads Built over Soft Soil under Cyclic Plate Loads," *Geotextiles and Geomembranes Journal*, Vol. 44, Issue 6, pp. 845-853.
16. Haque Md. N., **Abu-Farsakh, M.**, and Tsai C., 2016 "Field Investigation to Evaluate the Effects of Pile Installation Sequence on Set-up Behavior for Instrumented Test Piles," *Geotechnical Testing Journal*, Vol. 35, Issue 5, pp. 769 – 785.
17. **Abu-Farsakh, M**., Pant, R., Haque, Md. N., 2016 "Correlation of consolidation parameters (M and OCR) of cohesive soils with PCPT data," *Journal of the Transportation Research Record*

24. Tang X., **Abu-Farsakh, M**., Hanandeh S., and Chen Q., 2015 "Performance of Reinforced/Stabilized Unpaved Test Sections Built over Native Soft Soil under Full-Scale Moving Wheel Loads," *Journal of the Transportation Research Record*, Vol. 2511, Soil Mechanics, pp. 81-89.

25. Abu-Hijleh N., **Abu-Farsakh, M**., Suleiman M. and Tsai C., 2015 "Development and Use of High-Quality Databases of Deep Foundation Load Tests," *Journal of the Transportation Research Record*, No. 2511, Soil Mechanics, pp. 27-36.

26. **Abu-Farsakh M.,** Dhakal S., and Chen Q., 2015 "Laboratory Characterization of Cementitiously Treated/Stabilized Very Weak Subgrade Soil under Cyclic Loading," Soils and Foundations Journal, Volume 55, Issue 3, pp. 504-516.

27. Chen Q. and **Abu-Farsakh M**, 2015, "Ultimate Bearing Capacity Analysis of Strip Footings on Reinforced Soil Foundation," *Soils and Foundations Journal*, Volume 55, Issue 1, pp. 74-85.

28. Haque M. N., **Abu-Farsakh, M**., and Chen Q., 2014, "Case Study on Characterization of Pile Setup of Individual Layer in Cohesive Soils," *Journal of the Transportation Research Record*, No. 2462, Soil Mechanics, pp. 37-47.

29. **Abu-Farsakh M**., Gu J., Voyiadjis G., and Chen Q. 2014, "Mechanical-Empirical Analysis of the Results of Finite Element Analysis on Flexible Pavement with Geogrid Base Reinforcement," *International Journal of Pavement Engineering.* Vol. 15, No. 9, pp 786-798.

30. Chen Q., Haque M., **Abu-Farsakh, M**., and Fernandez B., 2014, "Field Investigation of Pile Setup in Mixed Soil," *ASTM Geotechnical Testing Journal*. Vol. 37, No. 2, pp

39. **Abu-Farsakh, M.,** Yu X., Pathak B., and Zhang, Z., 2011 "Field Testing and Analyses of a Batter Pile Group Foundation under Lateral Loading," *Journal of Transportation Research Record,* No. 2212, Soil Mechanics, pp. 42-55.

40. **Abu-Farsakh, M.,** Pant R., Gautreau G., Yu X., and Zhang, Z., 2011 "Estimating Embankment Settlement from Piezocone Penetration Test Data, Case Study" *Journal of Transportation Research Record,* No. 2212, Soil Mechanics, pp. 120-130.

41. Nazzal, M. **Abu-Farsakh, M.,** and Mohammad, L., 2010 "Implementation of a Critical State Two-Surface Model to Evaluate the Response of Geosynthetic Reinforced Pavements," *ASCE International Journal of Geomechanics*, Vol. 10, No. 5, pp. 202-212.

42. **Abu-Farsakh, M.** and Yu, X., 2010, "Interpretation Criteria to Evaluate Resistance Factors for Axial Load Capacity of Drilled Shafts," *Journal of the Transportation Research Record,* Vol. 3, No. 2202, Bridge-Engineering, pp. 20-31.

43. Chen, Q., and **Abu-Farsakh, M. Y.**, 2010 "Field Rutting Performance of Various Base/Subbase Materials under Two Types of Loading," *Journal of the Transportation Research Board,* No. 2186, Soil Mechanics, pp. 90-100.

44. Chen Q., **Abu-Farsakh M.**, and Mingjiang Tao, 2009 "Laboratory Evaluation of Geogrid Base Reinforcement and Corresponding Instrumentation Program," *ASTM Geotechnical Testing Journal*, Vol. 32, No. 6, pp. 516-525.

45. Chen Q., **Abu-Farsakh M.**, and Sharma R., 2009 "Experimental and Analytical Studies of Reinforced Crushed Limestone," Geotextile and Geomembrane *Journal,* Vol. 27, No. 5, pp. 357-367.

46. Mohammad L., Nazzal M., **Abu-Farsakh M.**, and Alshibli K., 2009 "Estimation of Subgrade Soils Resilient Modulus from In Situ Devices Test Results," *ASTM Journal of Testing and Evaluation*, Vol. 37, Issue 3, pp. 245-253.

47. Yoon, S. and **Abu-Farsakh M.**, 2009 "Laboratory Investigation on the Strength Characteristics of Cement-Sand as Base Material." KSCE Journal of Civil Engineering, Vol. 13, No. 1, pp. 15-22.

48. Sharma R., Chen Q., **Abu-Farsakh M.**, and Yoon S., 2009 "Analytical Modeling of Geogrid Reinforced Soil Foundation," Geotextile and Geomembrane *Journal,* Vol. 27, No. 1, pp. 63-72.

49. **Abu-Farsakh M.**, Chen Q., Sharma R., and Zhang X., 2008, "Large-Scale Model Footing Tests on Geogrid Reinforced Marginal Embankment Soil," *ASTM Geotechnical Testing Journal*, Vol. 31, No. 5, pp. 413-423.

50. Yoon, S., **Abu-Farsakh, M**., Tsai C., and Zhang Z., 2008, "Calibration of Resistance Factors for Axially Loaded Concrete Piles Driven into Soft Soils," *Journal of the Transportation Research Board*, No. 2045, Soil Mechanics, pp. 39 - 50.

51. **Abu-Farsakh M**., Zhang Z., Tumay, T., and Morvant M., 2008, "Computerized Cone Penetration Test for Soil Classification: Development of MS-Windows Software," *Journal of the Transportation Research Board*, No. 2053, Geology and Properties of Earth Materials, pp. 47 - 64.

52. Tumay T., **Abu-Farsakh M.**

54. **Abu-Farsakh M. Y**., and Titi, H. H., 2007, "Probabilistic CPT Method for Estimating the Ultimate Capacity of Friction Piles" *ASTM American society for Testing and Materials.* Vol. 30, No. 5, pp. 387-398.

55. **Abu-Farsakh, M. Y.,** Coronel, J., and Mingjiang T., 2007, "Effect of Soil Moisture Content and Dry Density on Cohesive soil–Geosynthetic Interactions using Large Direct Shear Tests," ASCE *Journal of Materials in Civil Engineering*, Vo. 19, No. 7, pp. 540 – 549.

56. Abu-Farsakh M. Y. , and Mohammad, N. L., 2007, "Laboratory Characterization of Reinforced Crushed Limestone Material," *ASCE Journal of Materials in Civil Engineering* , Vol. 19, No. 9, pp. 772-783.

57. **Abu-Farsakh, M. Y.,** Nazzal, M., and Mohammad, N. L., 2007 "2D Finite Element Analyses to Evaluate the Performance of Geogrid Base Reinforcement in Weak Flexible Pavement Structures," *International Journal of Pavements,* Volume 6 Number 1-2-3, pp. 146-157.

58. Abu-Farsakh, M. Y., Nazzal, M., Mohammad, L. N., Herath, A., and Gudishala R, 2007, "Laboratory Investigation of Reinforced Crushed Limestone Material from Dynamic Cone Penetration Test
ASCE Journal of Materials in Civil Engineering, Vol. 19, No. 11, pp.986-992.

69. Wei, L., Tumay, M. T., and **Abu-Farsakh, M. Y.**, 2005, "Field Testing of Inclined Cone penetration," *ASTM American society for Testing and Materials*

UNDER REVIEW PAPERS

1. Haque, Md. N., and **Abu-Farsakh, M.**, "Development of Analytical Models to Estimate the Increase in Pile Capacity with Time (Pile Set-up) from Soil Properties," Submitted for possible publication in the *ACTA Geotechnica Journal*.
2. Rousti F. and **Abu-Farsakh M.**, "Development of a Constitutive Model for Clays Based on Disturbed State Concept and its Application to Simulate Pile Installation and Setup," Submitted for possible publication in *Soils and Foundations Journal*.
3. Ardah, A., **Abu-Farsakh, M.**, and Voyiadjis, G., "Numerical Investigation of the Performance of Geosynthetic Reinforced Soil–Integrated Bridge System (GRS-IBS) Subjected to Differential Settlement," Submitted for possible publication in the *Geosynthetics International Journal*.
4. **Abu-Farsakh, M.**, and Haque, Md. N., "Estimation of Pile Setup and Incorporation of Resistance Factor in LRFD Framework," Submitted for possible publication in the *ASCE Journal of Geotechnical and Geoenvironmental Engineering*.
5. **Abu-Farsakh, M.**, Ardah, A., and Voyiadjis, G., "Numerical Parametric Study to Evaluate the Performance of Geosynthetic Reinforced Soil–Integrated Bridge System (GRS-IBS) under Service Loading," Submitted for possible publication in the *Geotextiles and Geomebranes Journal*.

SPECIAL PUBLICATIONS:

1. **Abu-Farsakh M.**, Saghebfar M, Ardah A., and Chen Q. 2017 "A Case Study on Evaluating the Performance of Geosynthetic Reinforced Soil Integrated Bridge System (GRS-IBS)" accepted for publication and presentation at Geo-Frontiers 2017, Orlando, FL.
2. **Abu-Farsakh M.**, and Haque M. N. 2017 "Development of Empirical Models to Estimate the Increase in Pile Resistance (Set-Up) with Time" accepted for publication and presentation at Geo-Frontiers 2017, Orlando, FL.
3. Haque M. N., **Abu-Farsakh M.,** Chen Q., and Okeil A., 2015 "Evaluation of Pile Set-up of Individual Soil Layers for Instrumented Test Piles," accepted for publication and presentation at the *International Foundation Congress & Equipment Expo 2015*, IFCEE 2015, San Antonio, TX.
4. Rosti F. and **Abu-Farsakh M.,** 2015 "Numerical Simulation of Pile Installation and Setup for Bayou Lacassine Site," accepted for publication and presentation at the *International Foundation Congress & Equipment Expo 2015*, IFCEE 2015, San Antonio, TX.
5. Abu-Hejleh N., **Abu-Farsakh M.,** Suleiman M., and Tsai C., 2015 "State of Practices in Databases for Deep Foundation Load Tests," accepted for publication and presentation at the *International Foundation Congress & Equipment Expo 2015*, IFCEE 2015, San Antonio, TX.
6. **Abu-Farsakh M.,** Dhakal S., and Chen Q., 2014"Performance Evaluation of Cement Treated/Stabilized Very Weak Subgrade Soils," accepted for publication and presentation at Geo-Gongress 2014, Atlanta, GA.
7. Tang X, **Abu-Farsakh, M**., Hanandeh S., and Chen Q., 2014 "Evaluation of Geosynthetics in Unpaved Roads Built over Natural Soft Subgrade using Full-Scale Accelerated Pavement Testing," accepted for publication and presentation at Geo-Gongress 2014, Atlanta, GA.
8. Haque M. N., Chen Q., **Abu-Farsakh, M.**, and Tsai C., 2014 "Effects of Pile Size on Set-up Behavior of Cohesive Soils," accepted for publication and presentation at Geo-Gongress 2014, Atlanta, GA.

35.

Panamerican Conference on Soil Mechanics and Geotechnical Engineering, Buenos Aires, Argentina, November 2015.

11. **Abu-Farsakh M.**, Hanandeh S., Chen Q., and Mohammad L., 2015 “Evaluation of Geosynthetic Reinforced/Stabilized for Pavement Built over Soft Subgrade Soil Using Cyclic Plate Loading Testing,” Geosynthetics 2015, February 15-18, Portland, Oregon.
12. Chen Q., **Abu-Farsakh M.**, and Haque M., 2015 “Comparison of Resistance Factors between the 1999 and the 2010 FHWA Design Methods for LRFD Design of Drilled Shafts,” proceedings of the 94

24. **Abu-Farsakh, M**., Chen Q., Tang X, Hanandeh S., and 2013 "Performance Evaluation of Geosynthetics for Reinforcement/Stabilization of Road Structures over Weak Subgrades," Proceedings of the 6th International Conference Geosynthetics Middle East 2013, Abu Dhabi, UAE, pp. 35-44.
25. **Abu-Farsakh M.,** Yu X., and Pathak B., 2012 "Instrumentation and Full-Scale Lateral Load Testing of a Batter Pile Group at I-10 Twin Span Bridge," Proceedings of the 7th International Conference on Offshore Site Investigation and Geotechnics, London, UK.
26. **Abu-Farsakh M.,** and Yu X., 2012 "Comparison of Predicted Embankment Settlement from Piezocone Penetration Test with Field Measurement and Laboratory Estimated," proceedings of the 4th International Conference on Geotechnical and Geophysical Site Characterization (ISC-4), Porto de Galinhas, Pernambuco – Brazil.
27. **Abu-Farsakh M**., Gu J., Voyiadjis G., and Chen Q., 2012 "Finite Element Analysis to Evaluate Geogrid Base Reinforcement in Flexible Pavement," proceedings of the 91st TRB annual meeting, Washington, D.C.
28. Zhang Y., **Abu-Farsakh M**., and Voyiadjis G., 2012 "Finite Element Analysis of a Full-scale

39. **Abu-Farsakh, M. Y.,** and Coronel, J., 2006, "Characterization of Cohesive Soil-Geosynthetic Interactions from Large Direct Shear Tests," 85th TRB annual meeting, Washington, D.C.

40. Wei L., **Abu-Farsakh, M. Y.,** and Tumay, M. T., 2005, "Influence of Initial Stress Anisotropy on Inclined Cone Tip Resistance in Clay," *Proceedings of McMat2005*: 2005 Joint ASME/ASCE/SES Conference on Mechanics and Materials June 1–3, 2005, Baton Rouge, Louisiana, USA.

41. Wei L., **Abu-Farsakh, M. Y.,** and Tumay, M. T., 2004, "Finite Element Analysis of Piezocone Penetration in Anisotropically Consolidated Clay," *Ninth International Symposium on Numerical Models in Geomechanics, NUMOG IX*, Ottawa, Canada, pp. 691-697.

42. Titi H. H., Mahamid M., **Abu-Farsakh M. Y.**, and Elias M., 2004, "Calibration of Resistance Factors for Load and Resistance Factor Design of Driven Piles using CPT Methods," 12th Annual Great Lakes Geotechnical and Geoenvironmental Engineering Conference (GLGGC), *Akron, Ohio.*

43. **Abu-Farsakh, M. Y.** Tumay, M. T., and Voyiadjis G. Z, 2003, "Finite Element Modeling and Study of Factors Affecting Piezocone Penetration Test Results," presented at the 82nd TRB annual meeting, Washington, D.C.

44. **Abu-Farsakh, M. Y.,** 2002 "Evaluation of Strength and Consolidation Parameters of Cohesive Soils from Piezocone Penetration Tests," presented at the 81st TRB annual meeting, Washington, D.C.

45. **Abu-Farsakh, M. Y.** and Tumay, M. T., 2002, "Effect of in-situ Soil Properties on Piezocone Penetration Test Measurements," Proceedings of the Eighth International Symposium on Numerical Models in Geomechanics, NUMOG VIII, Rome, Italy, April 10-12, pp. 601-606.

46. **Abu-Farsakh, M. Y.** and Tumay, M. T., 2001, "A Numerical Model for the Analysis of the Piezocone Penetration Test," *10th International Conference on Computer Methods and Advances in Geomechanics*, Tucson, Arizona, January 7-12, pp. 899-904.

47. **Abu-Farsakh, M. Y.**, Farrag, K. and Tumay, M. T. 2001, "Evaluation of Consolidation Parameters from Piezocone Penetration Tests," Proceedings of the XV ICSMGE conference on Soil Mechanics and Geotechnical Engineering, Istanbul, Turkey, August 27-31, 2001, pp. 365-368.

48. **Abu-Farsakh, M. Y.**, and Tumay, M. T, 1999, "Effect of In Situ Stresses and OCR on the MPCPT measurements," , *and Tumay1*oD.0017 nd

PRESENTATIONS

1. Haque Md. N., **Abu-Farsakh M.**, and Nickel C., 2017, "A Field Study to Analyze Pile Setup Behavior and Comparison of Pile Capacity Methods from CPT," Presented at the 42nd DFI Annual Conference, New Orleanse, Oct 24-27.
2. **Abu-Farsakh M.**, Saghebfar M, Ardah A., and Chen Q. 2017 "Instrumenting and Monitoring the Performance of Geosynthetic Reinforced Soil Integrated Bridge System" presented at the CESARE'17 (Coordinating Engineering for Sustainability and Resilience) conference, Dead Sea, Jordan.
3. **Abu-Farsakh M.**

15. **Abu-Farsakh M.**, and Chen Q., 2016 "Mitigating the Bridge End Bump Problem: A Case Study of a New Approach Slab System with Geosynthetic Reinforced Soil Foundation," presented at the 2nd International Conference and Expo on Smart Materials and Structures, Philadelphia, Pennsylvania, March 2016.
16. **Abu-Farsakh, M.**, Pant, R., Haque, Md. N., 2016 "Correlation of consolidation parameters (M and OCR) of cohesive soils with PCPT data," presented at the 95th TRB annual meeting, Washington, D.C.
17. Haque, Md. N., **Abu-Farsakh, M.**, Chen, Q., and Okeil, A., 2016 "Evaluate set-up for individual soil layers and develop a model to estimate the increase in unit side resistance with time based on PCPT data," presented at the 95th TRB annual meeting, Washington, D.C.
18. Souri A., **Abu-Farsakh M.**, and Voyiadjis G., 2016 "Evaluating the Lateral Behavior of Battered Pile Group Foundation Using 3-D Finite Element Modeling," presented at the 95th TRB annual meeting, Washington, D.C.
19. Saghebfar M., Abu-Farsakh M., Ardah A., Chen Q., and Fenandez B., 2016 "Instrumentation and Short-Term Performance Monitoring of Geosynthetic Reinforced Soil Integrated Bridge System," presented at the 95th TRB annual meeting, Washington, D.C.
20. **Abu-Farsakh M.**, Hanandeh S., Mohammad L., and Chen Q., 2016 "Evaluation of Geosynthetic Reinforced/Stabilized Pavement Built over Soft Subgrade Soil Using Cyclic Plate Loading Testing," presented at the 95th TRB annual meeting, Washington, D.C.
21. Haque, Md. N., **Abu-Farsakh, M.**, and Chen, Q., 2015 "Pile Set-Up for Individual Soil Layers along Instrumented Test Piles in Clayey Soil," presented at the XV Panamerican Conference on Soil Mechanics and Geotechnical Engineering, Buenos Aires, Argentina, November 2015.
22. **Abu-Farsakh, M.**, and Rosti F., 2015 "Finite Element Analysis of Pile Installation and Setup of Full-Scale Load Tests," presented at the XV Panamerican Conference on Soil Mechanics and Geotechnical Engineering, Buenos Aires, Argentina, November 2015.
23. **Abu-Farsakh M.**, 2015 "Investigation of Set-up for Piles Driven in Cohesive Soils in Louisiana and its Correlation with Soil Properties'" 2015 Louisiana Civil Engineering Conference and Show, New Orleans, Louisiana.
24. **Abu-Farsakh M.,** 2015 "Field Instrumentation and Testing to Study Set-up Phenomenon of Piles Driven into Louisiana Clayey Soils," Third Quarter 2015 Chapter Meeting, PDCA of the Gulf Coast New Orleans, Louisiana.
25. Haque M. N., **Abu-Farsakh M.**, Chen Q., and Okeil A., 2015 "Evaluation of Pile Set-up of Individual Soil Layers for Instrumented Test Piles," International Foundation Congress & Equipment Expo 2015, IFCEE 2015, San Antonio, TX.
26. Rosti F. and **Abu-Farsakh M.**, 2015 "Numerical Simulation of Pile Installation and Setup for Bayou Lacassine Site," International Foundation Congress & Equipment Expo 2015, IFCEE 2015, San Antonio, TX.
27. **Abu-Farsakh M.**, 2015 "Introduction to CPT for Pile Design," presented at the 94th TRB annual meeting as part of a Workshop on Pile Capacity Assessment with Cone Penetration Test (CPT) Data, Washington, D.C.
28. **Abu-Farsakh M.**, 2015 "Louisiana Pile Capacity Calculation Approach," presented at the 94th TRB annual meeting as part of a Workshop on Pile Capacity Assessment with Cone Penetration Test (CPT) Data, Washington, D.C.
29. **Abu-Farsakh M.**, 2015 "Bayou Lacassine, LA Bridge Case History," presented at the 94th TRB annual meeting as part of a Workshop on Pile Capacity Assessment with Cone Penetration Test (CPT) Data, Washington, D.C.

30. **Abu-Farsakh M.**, Mehrotra A., Mohammad L., and Gaspard K., 2015 "Incorporating the Effect of Moisture Variation on Resilient Modulus for Unsaturated Fine-Grained Subgrade Soils," presented at the 94th TRB annual meeting, Washington, D.C.

31. Tang X., **Abu-Farsakh, M**., Hanandeh S., and Chen Q., 2015 "Performance of Reinforced/Stabilized Unpaved Test Sections Built over Native Soft Soil under Full-Scale Moving Wheel Loads," presented at the 94th TRB annual meeting, Washington, D.C.

32. Abu-Hijleh N., **Abu-Farsakh, M**., Suleiman M. and Tsai C., 2015 "State of Practice in Databases for Deep Foundation Load Tests," presented at the 94th TRB annual meeting, Washington, D.C.

33. Chen Q., **Abu-Farsakh M.**, and Haque M., 2015 "Comparison of Resistance Factors between the 1999 and the 2010 FHWA Design Methods for LRFD Design of Drilled Shafts," presented at the 94th TRB annual meeting, Washington, D.C.

34. Haque M. N., **Abu-Farsakh, M**., and Tsai C., 2015 "A Case Study on Evaluating Pile Set-up and the Effect of Pile Installation Sequence." presented at the 94th TRB annual meeting, Washington, D.C.

35. **Abu-Farsakh, M**., Yoon S., Tsai C. and Zhang Z., 2014, "Calibration of resistance factors for CPT-based design methods of axially load driven piles," presented at the 3rd International Symposium on Cone Penetration Testing, CPT 14, Las Vegas, Nevada, USA.

36. **Abu-Farsakh, M**., Haque M., and Chen Q., 2014, "A Case Study on Instrumenting and Testing Full-Scale Test Piles for Evaluating Set-up Phenomenon," presented at the International Conference on Civil Engineering for Sustainability and Resilience, CESARE'14, Amman, Jordan.

37. **Abu-Farsakh, M**., Yoon S.., Ha D., Marr A., Zhang Z., and Tsai C., 2014, "Design of a Smart Structural Health Monitoring System for the New I-10 Twin Span Bridge Over Lake Pontchartrain," presented the International Conference on Civil Engineering for Sustainability and Resilience, CESARE'14, Amman, Jordan.

38. **Abu-Farsakh, M**., Yoon S.., Ha D., Marr A., Zhang Z., and Tsai C., 2014, "Evaluating the Performance of Geosynthetic Reinforced Pavements over Weak Subgrade," presented the International Conference on Civil Engineering for Sustainability and Resilience, CESARE'14, Amman, Jordan.

39. Haque M. N., **Abu-Farsakh, M**., and Chen Q., 2014, "A Case Study on Characterization of Pile Setup of Individual Layer in Cohesive Soils," presented at the 93rd TRB annual meeting, Washington, D.C.

40. **Abu-Farsakh, M**., Ankond I. and Chen Q., 2014 "Evaluation of Performance of Geosynthetic-Reinforced Unpaved Roads using Plate Load Tests," presented at the 93rd TRB annual meeting, Washington, D.C.

41. Tang X, **Abu-Farsakh, M**., Hanandeh S., and Chen Q., 2014 "Evaluation of Geosynthetics in Unpaved Roads Built over Native Soft Soil," presented at the 93rd TRB annual meeting, Washington, D.C.

42. **Abu-Farsakh M.,** Dhakal S., and Chen Q., 2014"Performance Evaluation of Cement Treated/Stabilized Very Weak Subgrade Soils," presented at Geo-Gongress 2014 Conference, Atlanta, GA.

43. Tang X, **Abu-Farsakh, M**., Hanandeh S., and Chen Q., 2014 "Evaluation of Geosynthetics in Unpaved Roads Built over Natural Soft Subgrade using Full-Scale Accelerated Pavement Testing," presented at Geo-Gongress 2014 Conference, Atlanta, GA.

44. Haque M. N., Chen Q.,, Abu-Farsakh, M., and Tsai C., 2014 “Effects of Pile Size on Set-up Behavior of Cohesive Soils,” presented at Geo-Gongress 2014 Conference, Atlanta, GA.
45. **Abu-Farsakh, M**., Ankond I. and Chen Q., 2014 “Evaluation of Performance of Geosynthetic-Reinforced Unpaved Roads using Plate Load Tests,” ,” presented at the 93rd TRB annual meeting, Washington, D.C.
46. Tang X, **Abu-Farsakh, M**., Hanandeh S., and Chen Q., 2014 “Evaluation of Geosynthetics in Unpaved Roads Built over Native Soft Soil,” presented at the 93rd TRB annual meeting, Washington, D.C.
47. Abu-Hejleh N, **Abu-Farsakh, M**., and Suleiman M., 2014 “Foundation Load Test Databases: Applications, Contents and Development,” presented at the 93rd TRB annual meeting, Washington, D.C.
48. **Abu-Farsakh, M**., Ankond I. and Chen Q., 2013 “Laboratory Evaluation of the Performance of Geosynthetic-Reinforced aggregate over Weak Subgrade ,” presented at Geosynthetics 2013, Long Beach, California.
49. **Abu-Farsakh, M**., Chen Q., Tang X, Hanandeh S., and 2013 “Performance Evaluation of Geosynthetics for Reinforcement/Stabilization of Road Structures over Weak Subgrades,” presented at the 6th5nten2al meeting,

59. Yu, X. and **Abu-Farsakh, M.,** 2011 "Prediction of Embankment Settlement from PCPT

75. **Abu-Farsakh, M.,** Yoon, S., Tsai C., and Zhang Z., 2009, “Reliability Based Analysis of Axial Load Capacity of Drilled Shaft in Louisiana Soils,” *International Foundation Congress &*

91. **Abu-Farsakh, M. Y.**, Chen, Q., and Gu, J., 2007, "Geosynthetic Reinforced Foundation" 2007 Louisiana Transportation Engineering Conference, February, 15-18, Baton Rouge, Louisiana.
92. **Abu-Farsakh, M. Y.**, Nazzal, M., and Louay, M., 2007, "Geosynthetic Reinforced Pavement" 2007 Louisiana Transportation Engineering Conference, February, 15-18, Baton Rouge, Louisiana.
93. Yoon, S., and **Abu-Farsakh, M. Y.,** 2007, "LRFD Application in Driven Pile Design" 2007 Louisiana Transportation Engineering Conference, February, 15-18, Baton Rouge, Louisiana.
94. Tao, M., and **Abu-Farsakh, M. Y**., 2007, "Optimizing Unbound Aggregate Bases through

Abu-Farsakh, M. Y., and Chen, Q., 2013 “Field Demonstration of New Bridge Approach Slab Designs and Performance,” Report No. FHWA/LA.13/520, Louisiana Transportation Research Center, Baton Rouge, LA, 54 p.

Abu-Farsakh, M. Y., Chen, Q., and Haque, M., 2012 “Calibration of Resistance Factors of Drilled Shafts for the New FHWA Design Method,” Report No. FHWA/LA.12/495, Louisiana Transportation Research Center, Baton Rouge, LA, 122 p.

Abu-Farsakh, M. Y., Alshibli K., Nazzal, M., Seyman, E., 2004, "Assessment of In-Situ Test Technology for Construction Control of Base Courses and Embankments," Report No. FHWA/LA.04/389, Louisiana Transportation Research Center, Baton Rouge, LA, 126 p.

Abu-Farsakh, M. Y. 2004, "Evaluation of Consolidation Characteristics of Cohesive Soils from Piezocone Penetration Tests," Report No. FHWA/LA.04/386, Louisiana Transportation Research Center, Baton Rouge, LA, 106 p.

Titi, H. H. and **Abu-Farsakh, M. Y.** 1999, "Evaluation of Bearing Capacity of Piles from Cone Penetration Test Data," Report No. FHWA/LA.99/334, Louisiana Transportation Research Center, Baton Rouge, Louisiana, 96 p.

Voyiadjis, G. Z., and **Abu-Farsakh, M. Y**., 1998, "Constitutive Modeling and Numerical Simulation of Soft Ground Tunneling Using Trenchless Technology - Final Report (1994-98), MSS-9312707," National Science Foundation, Arlington, Virginia, 107 p.

Voyiadjis, G. Z., and **Abu-Farsakh, M. Y**., 1996, "Developing Underground Space - Final Report (1995-96), Task Order No.: 736-99-0293," Louisiana Transportation Research Center, Baton Rouge, Louisiana, 27 p.

Other Publications

Books

Abu-Farsakh M., Alshibli K., and Puppala A., 2017, Advances in Analysis and Design of Deep Foundations, Proceedings of the 1st GeoMEast International Congress and Exhibition on Sustainable Civil Infrastructures, Sharm El Sheikh, Egypt, July 15 – 19, 2017, 303 p.

Abu-Farsakh M., Yu X., Alshibli K., and Hoyos L., 2014, Geo-Characterization and Modeling for Sustainability, Proceedings of the 2014 Geo-Congress, Atlanta, Georgia, February 23-26, 2014.

Technical Magazine

"Subsurface Site Characterizations with Cone Penetration Testing, Louisiana Develops Cost-Efficient Procedures for Bridge Projects," Research Pays off, TR News No. 253, Highway Design and Construction, A 2020 Vision, November-December 2007, pp. 39-41.

Developed Softwares