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EDUCATION

- Ph. D** Geotechnical Engineering, (August 2007)
The University of Akron, Akron, OH.
Dissertation Title: Integrated assessment of free draining base and subbase materials under flexible pavement.
- M.Sc.** Geotechnical Engineering, (March 2003)
Jordan University of Science and Technology, Jordan.
Thesis Title: Behavior of the reaction between certain Jordanian rock-aggregate and cement in roller compacted concrete (RCC) dams
- B.Sc.** Structural Engineering, (February 2000)
Jordan University of Science and Technology, Jordan.

PROFESSIONAL AND ACADEMIC EXPERIENCE

- **Assistant professor, Civil Engineering Department, Jordan University of Science and Technology, Jordan** (Sep 2019–present)
 - Soil Mechanics
 - Foundation Engineering
 - Soil stabilization
 - Soil behavior (graduate level)
 - Soil properties and their measurements (graduate level)
 - Graduation Project
- **Assistant professor, Civil Engineering Department, The Hashemite University, Jordan, (Sep 2016– Sep 2019).**
Developed and Taught the following civil engineering and general engineering courses:
 - Soil Mechanics
 - Soil Mechanics lab
 - Foundation Engineering
 - Soil stabilization and ground Reinforcement
 - Slope stability and Earth Retaining Structures
 - Graduation Project

Geotechnical Engineer, Gannett Fleming, Inc., U.S.A (Aug. 2007 to July 2016)

planning and oversight of subsurface explorations incorporating borings, test pits, probe holes, in-situ testing, instrumentation and geophysical methods; interpretation of subsurface investigation and laboratory soil test data; Prepares geotechnical reports, analyses, and specifications involving highway and railroad bridge foundations, earth-retaining structures, dams and earth structures, slope stability, reinforced slopes, geotechnical earthquake engineering analyses, soil structure interaction modeling, underpinning and foundation rehabilitation, forensic studies, and geophysical investigations.

Research Assistant, The University of Akron, OH. (January 2004 to August 2007)

Working on Ohio Department of transportation (ODOT) funded project. Field Performance of Drainable Base under Asphalt Pavement. Technical reports and proposals for ODOT.

Materials Engineer, Ministry of Public Work and Housing, Jordan (June 2002-Jan 2004)

testing and Quality control of material used in construction of highways and civil engineering projects.

Teaching Assistant, Jordan University of Science and Technology, Jordan (Jan 2000 – June 2002)

Supervised laboratory testing of soils and engineering drawing
Assist in teaching and grading a variety of undergraduate courses.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- American Society of Civil Engineers (ASCE)
- Geo-Institute (GI) of the American Society of Civil Engineers (ASCE)
- International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)
- Deep Foundation Institute (DFI)

HONORS AND AWARDS

- Eisenhower Graduate Research Fellowship in Transportation Engineering, Federal Highway Administration, 2006
- Graduate Scholarship, The University of Akron, 2004-2007
- Graduate Scholarship, Jordan University of science and technology, 2000-2003

REGISTRATION

Professional Engineer, P. E., Ohio (2008), Arizona (2012)
Jordan Engineering Association (2000)

PROFESSIONAL ACTIVITIES AND SERVICE

Master's Thesis Supervised

- Tareq K. Abu-agolah "The Effect of Moisture on The Unconfined Compressive and Tensile Strength of Treated Unsaturated Soil", Jordan University of Science and Technology, Irbid, Jordan, 2022
- Eman J. Bani Ismaeel "Innovative technique for stabilizing Irbid expansive soils using microbial induced calcium carbonate", Jordan University of Science and Technology, Irbid, Jordan 2022
- Mudhaffer Mohammad Alqudah "Effect of using oil shale ash on geotechnical properties of cement-stabilized expansive soil", Jordan University of Science and Technology, Irbid, Jordan, 2022
- Haneen I. Al Akhrass "Prediction of California Bearing Ratio using Soil Index Properties by Machine Learning Techniques, Multiple Linear Regression, and Non-Linear Regression", Jordan University of Science and Technology, Irbid, Jordan, 2021
- Laith Ibdah, "Expansive soil stabilization using cement and zeolite", Jordan University of Science and Technology, Irbid, Jordan, 2020
- Hussien Abdallah, "The effect of using lime and zeolite on the geotechnical properties of expansive soil " Jordan University of Science and Technology, Irbid, Jordan , 2020.
- Ahmed Alqawab'ah, "A Prediction of the Effect of Moisture on Unconfined Compressive and Tensile Strength of fiber reinforced unsaturated soil", Jordan University of Science and Technology, Irbid, Jordan , 2020

Organizing and Lecturing in Conferences and Workshops:

- Attendee, and Presentation Co-Author, American Society of Civil Engineers (ASCE) Geo-Congress 2014, February 23-26, 2014, Atlanta, USA
- Session Moderator and Attendee, Deep Foundation Institute (DFI) 38th Annual Conference on Deep Foundations, September 25-28, 2013, Phoenix, USA
- Attendee United States Society on Dams 33rd Annual Meeting and Conference, February 11-15, 2013, Phoenix, Arizona.
- Attendee, and Presentation Co-Author, American Society of Civil Engineers (ASCE) Geo-Frontiers conference March 13-16, 2011, Dallas, Texas.
- Attendee and Presentation Co-Author Deep Foundation Institute (DFI) 35th Annual Conference on Deep Foundations. October 12 - 15, 2010. Hollywood, CA, USA.
- Attendee, and presentation Co-Author, The Transportation Research Board (TRB) 86th Annual Meeting, January 21-25, 2007, Washington, D.C., USA
- 12th Annual Great Lakes Geotechnical and Geoenvironmental Engineering Conference (GLGGC), Advances in Deep Foundations: Design, Construction, and Quality Control, May 7, 2004, Akron, OH, USA.
- Reviewer for ASTM Geotechnical Testing Journal, Deep Foundation Institute (DFI), GeoShanghai 2010 Technical Conference.

Short Courses and Webinars

- Association of State Dam Safety Official (ASDSO) Webinar: Evaluation of Seepage Related Potential Failure Modes (PFM's) near Outlet Penetrations, January 15, 2013.
- Short course: Plaxis Advanced Course on Computational Geotechnics. June 27- 29, 2012, New York, USA.
- Short course: Geotechnical Aspects of Earthquake Engineering, Virginia Tech, December 6- 7, 2011, USA.
- Synchro-Pilestm: Enhancing the Performance of Deep Foundations using Post Grouted Drilled Shafts, September 13, 2011
- Association of State Dam Safety Official (ASDSO) Webinar: Pitfalls in Quality Control Processes for Compacted Earth Fill, November 16, 2010
- Association of State Dam Safety Official (ASDSO) Webinar: Guidelines for Assigning Erodibility Parameters to Soil Horizons for SITES Analyses – October 12, 2010.
- Association of State Dam Safety Official (ASDSO) Webinar: Pitfalls in Quality Control Processes for Compacted Earth Fill – November 16, 2010.
- Association of State Dam Safety Official (ASDSO) Webinar: Estimating Permeability Using Empirical Methods – December 14, 2010.
- Short course: Earthquake-Induced Ground Motions, ASCE, January 21-22, 2010, San Diego, USA.
- Arizona DOT Webinar: Deep Injection Grouting; materials applicability, expectations, and potential alternatives, January 14, 2010.
- ASCE Webinar: LRFD Design for Shallow Foundations on Soil and Rock , July 24, 2009
- Arizona DOT Webinar: LRFD Subsurface Explorations, Soil & Rock Testing on November 5, 2009
- Short course: Geotechnical Modeling Workshop (GeoStudio), GEO-SLOPE International, Ltd., Harrisburg, PA, 2008.
- Short course: Microstation, Gannett Fleming, Harrisburg, PA, 2007.
- Short course: MEPDG: Climatic Considerations, ODOT Central Office, June 22, 2006, Columbus, OH, USA
- Short course: Foundations & Earth Retaining Structures, March 24, 2006, University of Akron, Akron, OH, USA, Instructor: Jerry A. DiMaggio.
- Short course: Earth Retaining Structures, December 1 –2, 2005, University of Akron, Akron, OH, USA, Instructor: Jerry A. DiMaggio. Ground Improvement Methods, April 14 -16, 2005, University of Akron, Akron, OH, USA, Instructor: Jerry A. DiMaggio and Ryan R. Berg.
- Short course: Ground Improvement Methods, April 14 -16, 2005, University of Akron, Akron, OH, USA, Instructor: Jerry A. DiMaggio and Ryan R. Berg.
- Short course: Soil Slope and Embankment Design, November 18 -20, 2004, University of Akron, Akron, OH, USA, Instructors: Jerry A. DiMaggio and Dov Leshchinsky.
- Short course: Geographic Information System (GIS) Jordan Engineers Association, Jordan,2003.

PUBLICATIONS:

1. Abdallah, H. M., Rabab'ah, S. R., Taamneh, M. M., Taamneh, M. O., and Hanandeh, S. (2023). "Effect of Zeolitic Tuff on Strength, Resilient Modulus, and Permanent Strain of Lime-Stabilized Expansive Subgrade Soil." *Journal of Materials in Civil Engineering*, American Society of Civil Engineers, 35(5), 04023081.
2. Malkawi, D. A., **Rabab'ah, S. R.**, AlSyouf, M. M., and Aldeeky, H. (2023). "Utilizing expansive soil treated with phosphogypsum and lime in pavement construction." *Results in Engineering*, Elsevier, 19, 101256.
3. Malkawi, D. A., **Rabab'ah, S. R.**, Sharo, A. A., Aldeeky, H., Al-Souliman, G. K., and Saleh, H. O. (2023). "Enhancing of uniaxial compressive strength of travertine rock prediction through machine learning and multivariate analysis." *Results in Engineering*, Elsevier, 20, 101593.
4. **Rabab'ah, S. R.**, Sharo, A. A., Alqudah, M. M., Ashteyat, A. M., and Saleh, H. O. (2023). "Effect of using Oil Shale Ash on geotechnical properties of cement-stabilized expansive soil for pavement applications." *Case Studies in Construction Materials*, Elsevier, 19, e02508.
5. Khasawneh, M. A., Al-Akhrass, H. I., Rabab'ah, S. R., and Al-sugaier, A. O. (2022). "Prediction of California Bearing Ratio Using Soil Index Properties by Regression and Machine-Learning Techniques." *International Journal of Pavement Research and Technology*, Springer, 1–19.

6. Sharo, A. A., **Rabab'ah, S. R.**, Taamneh, M. O., Aldeeky, H., and Al Akhrass, H. (2022). "Mathematical Modelling for Predicting Thermal Properties of Selected Limestone." *Buildings* 2022, Vol. 12, Page 2063, Multidisciplinary Digital Publishing Institute, 12(12), 2063.
7. Sharo, A. A., Taamneh, M. O., and **Rabab'ah, S.** (2022). "Enhancing insulation properties of building stones." *Arabian Journal of Geosciences* 2022 15:16, Springer, 15(16), 1–13.
8. Sharo, A.A., Alawneh, A.S., Al Zghool, H.N., and **Rabab'ah, S.R.** (2021). The effect of alkali-resistant glass fibers and cement on the geotechnical properties of highly expansive soil: *Journal of Materials in Civil Engineering*, DOI: 10.1061/(ASCE)MT.1943-5533.0004058(accepted).
9. Abu Alfoul, B. A. A., Dwairi, H., Alqablan, H., and **Rababah, S.** (2021). "Investigating the Effect of Waste Polystyrene Dissolved in Paint Thinner Product as an Admixture and Coating Sealer on Concrete Properties." *International Review of Civil Engineering (IRECE)*, Praise Worthy Prize, 12(5).
10. Abuaddous, M., Taamneh, M.M., and **Rabab'ah, S.R.** (2021). The potential use of recycled polyethylene terephthalate (RPET) plastic waste in asphalt binder: *International Journal of Pavement Research and Technology*, Vol. 14, No. 5, pp. 579–587, DOI: 10.1007/s42947-020-0120-2.1
11. **Rabab'ah, S.R.**, Taamneh, M.M., Abdallah, H.M., Nusier, O.K., and Ibdah, L. (2021). Effect of Adding Zeolitic Tuff on Geotechnical Properties of Lime-Stabilized Expansive Soil: *KSCE Journal of Civil Engineering*, DOI: 10.1007/s12205-021-1603-7
12. **Rabab'ah, S.**, Al Hattamleh, O., Aldeeky, H., and Abu Alfoul, B. (2021). Effect of glass fiber on the properties of expansive soil and its utilization as subgrade reinforcement in pavement applications: *Case Studies in Construction Materials*, Vol. 14, p. e00485, DOI: 10.1016/j.cscm.2020.e00485.
13. Al Hattamleh, O., **Rababah, S.**, Alawneh, A., and Alqawab'ah, A. (2021). Verification of unified effective stress theory based on the effect of moisture on mechanical properties of fiber reinforced unsaturated soil: *Geotextiles and Geomembranes*, Vol. 49, No. 4, pp. 976–990, DOI: 10.1016/j.geotextmem.2021.01.007.
14. Aldeeky, H., Al Hattamleh, O., and **Rababah, S.** (2020). Assessing the uniaxial compressive strength and tangent Young's modulus of basalt rock using the Leeb rebound hardness test: *Materiales de Construcción*, Vol. 70, No. 340, p. 230, DOI: 10.3989/mc.2020.15119.
15. Al Qablan, H., Rabab'ah, S., Alfoul, B.A., and Hattamleh, O. Al (2020). Semi-empirical buckling analysis of perforated composite panel: *Mechanics Based Design of Structures and Machines*, pp. 1–18, DOI: 10.1080/15397734.2020.1784198.
16. **Rabab'ah, S.**, Al Hattamleh, O., Aldeeky, H., Aljarrah, M.M., and Al_Qablan, H.A. (2020). Resilient Response and Permanent Strain of Subgrade Soil Stabilized with Byproduct Recycled Steel and Cementitious Materials: *Journal of Materials in Civil Engineering*, Vol. 32, No. 6, p. 04020139, DOI: 10.1061/(asce)mt.1943-5533.0003211.
17. Al Hattamleh, O., Aldeeky, H., **Rabab'ah, S.**, and Taamneh, M. (2020). The effect of Dead Sea salt solution on the engineering properties of expansive subgrade clayey soil: *Arabian Journal of Geosciences*, Vol. 13, No. 11, p. 405, DOI: 10.1007/s12517-020-05364-0.
18. **Rababah, S.**, Aldeeky, H., Qasrawi, H., and Al Hattamleh, O. (2020). Performance of subgrade soil stabilised with by-product recycled mill scale and cementitious materials: *International Journal of Pavement Engineering*, DOI: 10.1080/10298436.2020.1766686.

19. Barham, W.S., **Rabab'ah, S.R.**, Aldeeky, H.H., and Al Hattamleh, O.H. (2020). Mechanical and Physical Based Artificial Neural Network Models for the Prediction of the Unconfined Compressive Strength of Rock: Geotechnical and Geological Engineering, Vol. 38, No. 5, pp. 4779–4792, DOI: 10.1007/s10706-020-01327-0.
20. Al Hattamleh, O., **Rabab'Ah, S.**, Aldeeky, H., and Al Qablan, H. (2020). Evaluating aqaba marine sand geotextile interface shear strength: International Journal of Geotechnical Engineering, Vol. 14, No. 5, pp. 545–556, DOI: 10.1080/19386362.2019.1651985.
21. Niedzielski, J. C., **Rabab'ah, S.**, and Valeria, J. (2019). “Drilled Shaft Load Testing Program for Design of Foundations for an Automated People Mover.” DFI 44th Annual Conference on Deep Foundations, Chicago, IL, USA.
22. Al Qablan, H., Dwairi, H.M., Al Hattamleh, O., and **Rabab'ah, S.** (2019). Simplified Buckling Analysis of Stiffened Laminated Sandwich Plates: Composites: Mechanics, Computations, Applications: An International Journal, Vol. 10, No. 1, DOI: 10.1615/CompMechComputApplIntJ.2018027696.
23. **Rabab'Ah, S.R.**, Niedzielski, J.C., and Taamneh, M.M. (2016). “Analysis, Design, and Performance of Anchored, Cast-in-Place Soldier-Pile Walls in Sand, Gravel, and Cobble Soils.” Geotechnical and Structural Engineering Congress 2016 - Proceedings of the Joint Geotechnical and Structural Engineering Congress 2016, American Society of Civil Engineers (ASCE), Phoenix, AZ, p. 428–438.
24. **Rabab'ah, S.R.**, Niedzielski, J.C., and Elsayed, A.A. (2014). “Analysis and design of Micropile-Supported Wall to Resist Lateral Deflection of Existing Railroad Bridge Abutment.” Geo-Congress 2014: Geo-characterization and Modeling for Sustainability, Atlanta, Georgia, p. 3102–3111.
25. Niedzielski, J.C., and **Rabab'ah, S.R.** (2014). “Drilled Shaft Foundation and Anchored, Drilled Shaft Soldier-Pile Wall Design for an Automated People Mover Guideway.” Geo-Congress 2014: Geo-characterization and Modeling for Sustainability, p. 4265–4279.
26. **Rabab'ah, S.R.**, Niedzielski, J.C., and Durkee, D.B. (2012). “Use of In Situ Tests for Design of Drilled Shafts in Coarse Granular Deposits.” GeoCongress 2012: State of the Art and Practice in Geotechnical Engineering, Oakland, CA, USA, p. 265–274.
27. Niedzielski, J.C, **Rabab'ah, S.**, and Ackerman, F.A. (2012) Optimization of Drilled Shaft Design for A Highway Bridge in Arizona Using Load Test Results, Proceedings of the 37th Annual Conference on Deep Foundations, 2012, Houston, TX, USA.
28. Niedzielski, J.C., **Rabab'ah, S.R.**, Elsayed, A.A., and Durkee, D.B. (2011). On Solid Footing: Civil Engineering Magazine Archive, Vol. 81, No. 5, pp. 68–73, DOI: 10.1061/ciegag.0000350.
29. **Rabab'ah, S.**, Niedzielski, J.C, Elsayed, A. (2011) Micropile-Supported Wall to Resist Lateral Deflection of Existing Railroad Bridge Abutment., Proceedings of the 36th Annual Conference on Deep Foundations, 2011, Boston, MA, USA.
30. Niedzielski, J.C, **Rabab'ah, S.**, Durkee, D., Elsayed, A. (2011) Design and Construction of Drilled Shaft Foundations for the Phoenix Sky Train Project, American Society of Civil Engineers, Geotechnical Special Publication (GSP) 211, pp. 222-231
31. **Rabab'ah, S.**, Niedzielski, J.C, Elsayed, A., Al Bodour, W., and Durkee, D., (2011), Comparison of Drilled Shaft Design Methods for Drilled Shafts in Sand, Coarse Gravel, and Cobble Soils. American Society of Civil Engineers, Geotechnical Special Publication (GSP) 211: pp. 212-221.

32. Taamneh, M., Liang, R., and **Rabab'ah, S.** (2011) Numerical Investigation of Subsurface Drainage in Flexible Pavement, Transportation Research Board 2011 Annual Meeting, paper 11-3099
33. Niedzielski, J.C, Rabab'ah, S., Durkee, D., Elsayed, A. (2010) Foundation Design And Construction Challenges For The Phoenix Sky Train Project, Proceedings of the 35th Annual Conference on Deep Foundations, 2010, Hollywood, CA, USA
34. Liang, R.Y., **Rabab'ah, S.**, and Khasawneh, M. (2008). Predicting Moisture-Dependent Resilient Modulus of Cohesive Soils Using Soil Suction Concept: Journal of Transportation Engineering, Vol. 134, No. 1, pp. 34–40, DOI: 10.1061/(ASCE)0733-947X(2008)134:1(34).
35. **Rabab'ah, S.**, and R.Y. Liang. (2008) Effectiveness of Drainable Base Layer Based on Field Monitoring Data and Performance Predictions, Transportation Research Board 2008 Annual Meeting, paper number:08-0074.
36. **Rabab'ah, S.**, and R.Y. Liang., (2008) Evaluation of Mechanistic-Empirical Design Approach over Permeable Base Materials, Transportation Research Board 2008 Annual Meeting, Washington DC, paper number:08-2407
37. Liang, R.Y., and **S. Rabab'ah.** (2007), "Predicting Moisture-Dependent Resilient Modulus of Cohesive Soils Using Soil Suction Concept." Proceedings of the XIII Pan-American Conference on Soil Mechanics and Geotechnical Engineering, Venezuela.
38. Liang, R.Y., **Rabab'ah, S.**, and M. Taamneh. (2007) Evaluation of Enhanced Integrated Climatic Model Predictions Over Different Permeable Base Materials, Proceedings of the XIII Pan-American Conference on Soil Mechanics and Geotechnical Engineering, Venezuela.
39. **Rabab'ah, S.**, and R.Y. Liang., (2007) Field and Laboratory Evaluation of Cement Treated Permeable Base, Transportation Research Board 86th Annual Meeting, Washington DC, paper number:07-3463.
40. **Rabab'ah, S.**, and R.Y. Liang., (2007) Parametric Study of Subsurface Drainage System of Asphalt Pavement, Transportation Research Board 86th Annual Meeting, Washington DC, paper number: 07-2262
41. **Rabab'ah, S.**, and R.Y. Liang. (2007) Finite Element Modeling of Field Performance of Different Permeable Base Under Asphalt Pavement, Journal of the Transportation Research Record, No. 2004, pp.163-172.
42. Liang, R.Y., K. Al-Akhras, and **Rabab'ah, S.**, (2006) Field Monitoring of Moisture Variations Under Flexible Pavement, Journal of Transportation Research Record, No. 1967, pp. 160-172
43. Liang, R.Y., K. Al-Akhras, and Rabab'ah, S., (2006) Performance Monitoring of Drainable Bases Under Asphalt Pavement, American Society of Civil Engineers, GeoCongress 2006: Geotechnical Engineering in the Information Technology Age, pp. 1-6.
44. Liang, R.Y., K. Al-Akhras, **Rabab'ah, S.**, A. Ashteyat, and A. Varri., (2006) Evaluation of Drainable Base Materials Under Asphalt Pavement, American Society of Civil Engineers, Geotechnical Special Publication (GSP), pp. 142-149.
45. Liang, R.Y., **Rabab'ah, S.**, and K. Al-Akhras., (2006) Validation of Enhanced Integrated Climatic Model Prediction over Different Drainable Base Materials, Transportation Research Board, paper number:06-2529.
46. Husein Malkawi, A.I.; Abed, A. and **Rabab'ah, S.** (2003) Behavior of the reaction between certain Jordanian rock-aggregate and cement in roller compacted concrete

(RCC) dams. 4th International Symposium on Roller Compacted Concrete (RCC)
Dams, 17-19 November, Spain.