Abed Almikati, Ph.D., P.E.

Email: abed1mikati@gmail.com - **LinkedIn**: abed-mikati – **Google Scholar** - US Perm Resident

Licensed Professional Engineer in Texas with a Ph.D. in Geotechnical Engineering and over six years of combined consulting and applied research experience on transportation and infrastructure projects across the U.S. Specialized in deep foundations, ground improvement, seismic site response, and numerical modeling. Extensive experience supporting DOT projects, interdisciplinary design teams, and constructible geotechnical solutions.

EDUCATION

University of Texas at Austin (UT Austin)
Postdoctoral Research Engineer — Jan 2022 – Jan 2024
PI: Jorge Gabriel Zornberg

American University of Beirut (AUB)
Ph.D. in Civil/Geotechnical Engineering, Civil Eng'g, GPA: 4.0/4.0 — Jul 2021
Advisor: Shadi Najjar

University of Texas at Austin (UT Austin)
International Student Exchange Program — Aug 2019 – Aug 2020
Advisor: Jorge Gabriel Zornberg

American University of Beirut (AUB)
B.E. in Civil and Environmental Engineering, GPA: 4.0/4.0 — May 2016

WORK EXPERIENCE

GeoEngineers Inc., Geotechnical Engineer — July 2023 – Present

General Tasks and Duties:

- Developed detailed subsurface soil profiles and evaluated geotechnical properties for both static and seismic site conditions in accordance with project-specific and regional standards
- Designed pile foundations for various infrastructure projects across multiple U.S. states, including comprehensive axial and lateral capacity analyses in addition to drivability assessments
- Conducted ground improvement analyses for over 40 projects across multiple U.S. states, using different techniques from which: (1) stone columns; (2) rigid inclusions; (3) soil mixing; (4) wick drains, etc.
- Conducted slope stability analyses for complex geotechnical conditions, including seismic loading and adverse topography
- Contributed to technical proposal development and project bidding efforts, including scope definition and preliminary design input for infrastructure projects

Specific Projects and Tasks:

1. Assisted in designing bridge foundations for a $12M LaDOTD project in Baton Rouge with a team of over 15 geotechnical/structural engineers
2. Co-led a team to run a $500k site specific response analysis "SSRA" project in Charleston, South Carolina for SCDOT. Project finished 30% under budget

Texas State University Jan 2024 – Present

- Assistant Professor (Industry-Active Appointment) working on:
  [Applied research; Industry collaboration; Design-oriented instruction; Field and lab work]

The University of Texas at Austin

Postdoctoral Research Engineer Jan 2022– Jan 2024

- Worked on joint projects between UT Austin, Texas Department of Transportation (TxDOT), and private companies for predicting field performance of reinforced asphalt pavements. The project was $3.5M in budget for a period of 4 years
- Observed and conducted field investigation, and prepared geotechnical reports
- Conducted field work such as: condition surveys, surveying, installing and monitoring various sensors
- Developed a new technique using centrifuge testing to predict swelling of expansive soils

Arabian Construction Company, ACC Nov 2013 – Jan 2014

- Site Civil Engineer Intern; Waterfront City Dbayeh in Beirut, Lebanon

EMAAR Saudi Arabia May 2015 – Aug 2015

- Technical Office Civil Engineer Intern, Jeddah Square Project in Jeddah, Saudi Arabia

RESEARCH EXPERIENCE

Texas State University

Faculty Member Jan 2024 - Present

- Assessing the bridge scour infill using electrical resistivity
- Predicting critical shear stress based on electrical resistivity measurements
- Studying the optimal geosynthetic design for unsaturated fouled ballast on weak subgrade

The University of Texas at Austin

Postdoctoral Research Fellow Jan 2022– Jan 2024

- Led and advised graduate students in their ongoing research
- Worked on joint projects between UT Austin, Texas Department of Transportation (TxDOT), and private companies for predicting field performance of reinforced asphalt pavements
- Observed and conducting field investigation and preparing geotechnical reports
- Conducted field work such as: condition surveys, surveying, installing and monitoring various sensors
- Conducted centrifuge testing to predict swelling of expansive soils found in various cities in Texas
- Analyzed and reported data in top tier journals and conferences

American University of Beirut

Ph.D. Researcher Sep 2016 – Jul 2021

- Designed and executed novel fully instrumented large scale triaxial setup for soil testing
- Developed data acquisition system and created LabVIEW code for data collection
- Studied the behavior of load sharing mechanism in reinforced soft clays under different drainage conditions and conducted a finite element analysis to study the radial drainage in reinforced soft clays

The University of Texas at Austin

Research Scholar Aug 2019 – Aug 2020

- Characterized clay-like transparent material, **Laponite**, from physical, optical and geotechnical perspectives
- Assisted in field testing in joint projects between Texas Department of Transportation and UT Austin

American University of Beirut

Graduate Research Engineer May 2016 – Sep 2016

- Simulated near-fault ground motions for specified earthquake sources and site characterizations using stochastic modelling
- Analyzed and reported data for a conference in Taiwan

SKILLS

Computer: MATLAB, C++, LabVIEW, PLAXIS 2D/3D, RStudio, ArcGIS, AutoCAD, SAP2000, ETABS, SAFE, gINT/Wincore, SlopeW, Slide2, APile, LPile, GROUP, SETTLE3, GRLWEAP, DEEPSOIL, RSSeismic and more
Lab: Microscopy; Rheology; Spectroscopy; Expert in instrumentation and measurement; Certified for operating machine shops equipment; Expert in all geotechnical lab setups
Languages: English (Professional), Arabic (Native), French (Working Proficiency)

WORKSHOPS

- ❖ Workshop: Leadership Development Weekend (LDW 2025) managed by ASCE in Lubbock, Texas
- ❖ Workshop: ITASCA Software Training Course, FLAC 2D, FLAC 3D, March 20-27, 2017
- ❖ Workshop: Using Ambient Vibration Techniques for Site Characterization, Seismic Microzonation and Buildings; NDU Lebanon, organized by ISTerre, October 2016

FUNDED RESEARCH PROPOSALS (INSIDE USA)

- Postdoctoral research on expansive soils (Funded by TxDOT and Center for Transportation Research, CTR)
- Ph.D. topic on Laponite characterization (Funded by Huesker)

PUBLICATIONS

- **Almikati, A.,** & Kulesza, S. E. A Simplified Model to Predict Critical Shear Stress in Plastic Soils for Bridge Scour. *Available at SSRN 4934727*.
- Gonzalez, E., **Almikati, A.,** & Zornberg, J. G. Experimental Performance Evaluation of Geotechnical Encased Columns. In Geotechnical Frontiers 2025 (pp. 357-364).
- **Almikati, A.,** Gonzalez, E., & Gabriel Zornberg, J. Determining the Shear Bands between GECs and Soft Clays with the Aid of Digital Image Correlation. In Geotechnical Frontiers 2025 (pp. 434-443).
- Zornberg, J. G., Sankaranarayanan, S., Roodi, H., Vasanthkumar, V. K., Blake, C., **Almikati, A.,** & Yalcin, Y. (2023). Implementation of Geosynthetic-Stabilized Roadways for Base Course Reduction: Field Monitoring and Design Recommendations [Project Summary Report] (No. 5-4829-05). University of Texas at Austin. Center for Transportation Research.

- **Almikati, A.,** Najjar, S., & Sadek, S. Assessment of Model Uncertainty for Settlement-Prediction Models of Spread Footings on Clays Reinforced with Aggregate Piers. In *Geo-Risk 2023* (pp. 326-335).
- **Almikati, A.,** Zornberg, J. G., & Pierozan, R. C. Study of Undrained Shear Strength of Laponite for Use as Transparent Clay Surrogate. In *Geo-Congress 2023* (pp. 283-292).
- **Almikati, A.**, Sadek, S., & Najjar, S. (2023). The Importance of Partial Drainage in the Response of Soft Clays Reinforced with Sand Column Groups. In *Geo-Congress 2023* (pp. 289-299).
- **Almikati, A.**, Najjar, S., & Sadek, S. (2022). Studying the effect of partial drainage on the response of soft clays reinforced with sand column groups. *Acta Geotechnica*, 1-18.
- **Almikati, A.**, Kahiel, A., Najjar, S., & Sadek, S. (2022). Quantifying the Hydraulic Conductivity of the "Smear/Intrusion" Zone for Sand-Column Reinforced Clays. *Proceedings of the 20th International Conference on Soil Mechanics and Geotechnical Engineering.* Sydney, Australia, ISBN 978-0-9946261-4-1
- **Almikati, A.,** Najjar, S., & Sadek, S. (2021). Large-Scale Instrumented Triaxial Setup for Investigating the Response of Soft Clay Reinforced with Sand Column Groups. International Journal of Geomechanics. https://doi.org/10.1061/(ASCE)GM.1943-5622.0002148
- **Almikati, A.,** Sadek, S., & Najjar, S. (2021). The Effect of Sand Column Configuration on the Response of Reinforced Soft Clays. In *IFCEE 2021* (pp. 510-520).
- Pierozan, R., **Almikati, A.,** Araujo, G., Zornberg, J.G. (2021). Forthcoming. Optical and Physical Properties of Laponite for Use as Clay Surrogate in Geotechnical Models. *Geotechnical Testing Journal*. GTJ-2021-0100.
- **Almikati, A.,** Najjar, S., & Sadek, S. (2020). The Drained Response of Soft Clays Reinforced with Sand Column Groups. In *Geo-Congress 2020: Foundations, Soil Improvement, and Erosion* (pp. 411-420). Reston, VA: American Society of Civil Engineers
- Dabaghi, M., **Almikati, A.,** & Der Kiureghian, A. (2015). SIMULATION of NEAR-FAULT GROUND MOTIONS for SPECIFIED EARTHQUAKE SOURCE and SITE CHARACTERISTICS

❖ *Recognized as a reviewer in top tier journals*

MEMBERSHIPS

- ❖ Member of American Society of Civil Engineering since 2014
- ❖ Member of Geo-Institute since 2019
- ❖ Secretary of ASCE Geo-Institute, Texas Branch
- ❖ Member of ASCE G-I Younger Member Council (YMC) – Texas Branch
- ❖ Member of Order of Engineers in Lebanon (Professional Engineer)