

# Abed Mikati, PhD, EIT

Phone: 512-701-8818 –Email: [abed1mikati@gmail.com](mailto:abed1mikati@gmail.com) LinkedIn: abed-mikati

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## EDUCATION

### American University of Beirut (AUB)

Ph.D. in Geotechnical Engineering, Civil Eng'g, GPA: 4.0/4.0

Jul 2021

### American University of Beirut (AUB)

B.E. in Civil and Environmental Engineering, GPA: 4.0/4.0

May 2016

### University of Texas at Austin (UT Austin)

International Student Exchange Program

Aug 2019 – Aug 2020

## RESEARCH EXPERIENCE

### The University of Texas at Austin

*Postdoctoral Research Fellow*

Jan 2022– Jan 2024

- Leading and advising graduate students in their ongoing research
- Working on joint projects between UT Austin, Texas Department of Transportation (TxDOT), and private sector for predicting field performance of reinforced asphalt pavements
- Observing and conducting field investigation and preparing geotechnical reports
- Conducting field work such as: condition surveys, surveying, installing and monitoring various sensors
- Conducting centrifuge testing to predict swelling of expansive soils found in various cities in Texas
- Analyzing and reporting 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
- 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 Researcher*

May 2016 – Sep 2016

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

## WORK EXPERIENCE

### **Texas State University**

Aug 2024 – Present

- Assistant Professor of Instruction, San Marcos, Texas, United States

### **Texas State University**

Feb 2024 – Aug 2024

- Full-time Lecturer, San Marcos, Texas, United States

### **GeoEngineers Inc., Staff Geotechnical Engineer - Part Time – Remote**

July 2023 – Aug 2024

- Developed soil profiles and soil properties for static and seismic conditions
- Designed pile foundations for projects in the US (different states) and performed drivability analyses. This included lateral and axial pile capacity design
- Designed micro-piles for several projects
- Perform global stability on several projects using SlopeW
- Design ground improvement using stone columns and rigid inclusions for multiple projects in South Carolina, California, Idaho
- Helped in proposal write-up and bidding for a couple of projects in California

### **Arabian Construction Company**

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

## TEACHING EXPERIENCE

### **Texas State University**

#### ***Faculty Member***

Fall 2023- Present

- Engaged students in solving real problems from case histories
- Utilized visual aids in the presentations to enhance understanding of complex concepts
- Keep abreast of the latest developments and research in geotechnical engineering
- Develop a variety of assessment methods including quizzes, exams, assignments, and presentation to gauge student understanding and progress
- Ensure the students get handy experience in the lab
- Courses Taught: Soil Mechanics and Laboratory, Statics, Foundations Design, Slope Stability

### **American University of Beirut**

#### ***Teaching Assistant***

Fall-2018 – Spring 2019 & Fall 2021 – Spring 2021

- Assisted in teaching undergraduate and graduate courses ranging in size between 25 – 85 students. Courses include: Soil Mechanics and Laboratory, Geotechnical Earthquake Engineering and Shear Strength of Soils
- Prepared course material including laboratory experiments, lectures, exams and practice problems
- Led weekly laboratory and discussion sections for groups of 20 – 30 students
- Supervised students in final year projects, graded exams and homework

## SKILLS

**Computer:** MATLAB, C++, LabVIEW, PLAXIS 2D/3D, RStudio, ArcGIS, AutoCAD, SAP2000, ETABS, SAFE, gINT/Wincore, SlopeW, Revu (Bluebeam), APile, LPile, Group, Settle3

**Lab:** Microscopy; Rheology; Spectroscopy; Expert in instrumentation and measurement; Certified for operating machine shops equipment; Expert in all geotechnical lab setups

**Languages:** English (Expert), Arabic (Native), French (Beginner)

## CONFERENCES AND WORKSHOPS

- ❖ Conference: Geo-Congress 2023: Sustainable Infrastructure Solutions from the Ground Up
- ❖ Conference: Sydney ICSMGE 2022: Studying the Effect of Smear/Intrusion Zones on Hydraulic Conductivity of Reinforced Clays with Sand Columns
- ❖ Conference: IFCEE 2021: Soil Improvement, ASCE, 2022
- ❖ Conference: Geo-Congress 2020: Foundations, Soil Improvement, and Erosion, ASCE, 2020
- ❖ Conference: Simulation of Near-Fault Ground Motions for Specified Earthquake Source and Site Characteristics; Taipei, Taiwan, 2016
- ❖ 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

## PUBLICATIONS

- **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](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*

### **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)

### **HOBBIES, INTERESTS AND MEMBERSHIPS**

- ❖ Hobbies include tennis, soccer, and karting
- ❖ Interested in cooking, playing music, and traveling.
- ❖ Member of American Society of Civil Engineering since 2014
- ❖ Member of Order of Engineers in Lebanon (Professional Engineer)