

Xiwei Li

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EDUCATION

- Arizona State University, Tempe, USA** 08/2020-Present
- Ph.D. Student in Geotechnical Engineering (Major GPA:4.0/4.0)
- Lehigh University, USA** 08/2018-05/2020
- M.S. in Civil Engineering (Major GPA:3.9/4.0)
- China University of Mining and Technology, China** 09/2013-06/2017
- B.Eng. in Civil Engineering (Major GPA: 3.6/4.0)

PUBLICATION

- [1] **Xiwei Li.**, Julian Tao., Leon van Paassen. “Using Mangrove-Inspired Skirt Pile Group as a Scour Countermeasure.” In preparation for Journal of Coastal Engineering.
- [2] **Xiwei Li.**, Julian Tao., Leon van Paassen. “Numerical Simulations of Mangrove-Inspired Sacrificial Pile Group for Scour Mitigation.” Geo-Congress 2022, Charlotte, NC. (Paper Accepted).
- [3] Kewei Gao., Hai Lin., Pierre Bick., Tomas Babuska., **Xiwei Li.**, Jeffrey Helm., Derick Brown., Nabil Zouari., Muhannad T. Suleiman. “Shear and Tensile Strength Measurements of CaCO₃ Cemented Bonds Between Glass Beads Treated by Microbially Induced Carbonate Precipitation (MICP).” Submitted to Journal of Geotechnical and Geoenvironmental Engineering.
- [4] Kewei Gao., Pierre Bick., **Xiwei Li.**, Jeffrey Helm., Derrick G. Brown., Nabil Zouari., Muhannad T. Suleiman. “Wind Erosion Mitigation Using Microbial Induced Carbonate Precipitation (MICP).” Under Submission.
- [5] **Xiwei Li.**, Hao Zheng., Quanxian Wang. “Safety Analysis for Metro Station Constructed by Enlarging Large Diameter Shield Tunnel with Mining Method [J] .” *China Civil Engineering Journal (ISSN1000-131X)*, 2016, 49 (9): 96-102

RESEARCH EXPERIENCE

- Bio-Based Scour Mitigation** **Graduate Research Associate** 08/2020-Present
- CFD modeling to simulate flow velocity profile and bed shear stress
 - Perform laboratory flume test to validate simulation results
 - Image processing and quantitative analysis for scoured bed features
- Bio-Mediated Geotechnic** **Research Assistant** 08/2018-05/2020
- Perform self-designed particle scale tests to measure the shear and tensile strength of calcite bonding between glass beads treated by Microbial Induced Calcite Precipitation (MICP)
 - Perform wind tunnel tests under static load and cyclic load to evaluate the wind erosion resistance of MICP treated soil sample
 - Use atomic absorption spectroscopy (AA) test to measure the CaCO₃ content in the

- treated soil sample at different depth
- Self-made shear wave sensors using Piezo-ceramic bender elements to measure shear wave velocity of MICP treated soil.

Research for Metro Station Constructed by Enlarging Large Diameter Shield Tunnel with Mining Method 01/2015-03/2016

Analyzed the problems of the CRD (cross diaphragm) by considering the geological and environmental conditions and proposed PBA (Pile-Beam-Arc) method

- Use three-dimensional finite element models to simulate the ground-structure interactions
- Build finite element models for metro station and surrounding ground structure
- Perform the finite element calculation with the software MIDAS GTS and FLAC 3D to analyze the stress feature and stability of the surrounding ground in the excavation process to estimate the influence of excavation on surrounding ground

INTERNSHIP

Beijing Urban & Rural Construction Group Co., Ltd 06/2016-08/2016
Technician (Intern)

- Assisted technical director in technical disclosure
- Compiling specific construction plan and site construction technology management

AWARD & EXTRACURRICULAR ACTIVITY

The Academic Scholarship, China University of Mining and Technology	2015&2016
The First Prize, University Concert	2013&2014
Saxophone Player, University Concert Band	2013&2014

SKILL

Technical: Auto CAD, Flac 3D, Midas GTS, MATLAB, COMSOL, Originlab. VisualSFM, CloudCompare.