Murilo Tarozzo

mtarozzo@txstate.edu / San Marcos, TX, USA

Academic Experience

Assistant Professor, Texas State University, San Marcos, TX, U.S. (Aug/2026 - Current)
Research and teaching in topics such as Geotechnical and Geo-structural Engineering, involving foundations, slope stability, earth retaining structures and soil investigations.
Courses taught: CE 3331 – Infrastructure Foundations

Graduate Research/Teaching Assistant, Auburn University, AL, U.S. (2022 - 2026)
Assistance with undergraduate and graduate courses:

- CIVL 3310 – Geotechnical Engineering I
- CIVL 4310 - Geotechnical Engineering II

Research conducted:

- Implementation of OMS-based Scour Prediction and Real-time Monitoring of Scour Processes for Alabama Bridges
- Impact of Steel H-Pile Embedment on Fixity in Bent Bridge Supports
- In-situ Vessel-bridge Impact Load Testing of the Decommissioned Mobile River Bayway Bridge

Research assistance:

- Earth Anchor Loading and Capacity for Temporary Structures under Wind Load.
- Evaluation of Sea-Level Rising on Pavement performance in coastal Alabama.
- Assembly and Operation of portable CPT equipment in Auburn National Geotechnical Experimentation Site.
- Full-scale testing of Mechanically Stabilized Earth (MSE) wall
- Load Testing of Cross-laminated Timber Piles.
- Load Testing of Crane Mat foundations.

Tutor, Mehtas Tutoring School, Campinas, Brazil (2012 - 2015)
Math and Physics tutor, teaching middle and high school students

Non-Academic Experience

Project Engineer/Manager, Sondosolo Geotechnics and Engineering, Brazil (2015 - 2022)

- Conducted and managed geotechnical projects from planning to completion, including scope, budget, compliance, and client/stakeholder communication.
- As project engineer, led multiple field teams of 5-20 workers each, coordinating over **150 personnel** across geotechnical construction and in-situ testing (Auger cast piles, drilled shafts, injected micropiles, SPT, CPT, rock coring, load tests).
- Designed and evaluated foundation and retaining wall projects for major clients in infrastructure, mining, energy and real state.

Academic Background

Ph.D., Civil Engineering, Auburn University, AL, U.S. (2026)
Geotechnical and Geo-Structural
Advisor: Dr. J. Brian Anderson
Dissertation: Evaluating Fixity in Steel H-Pile to Bent Cap Connections Relying on Plain Pile Embedment

M.Sc., Civil Engineering, UNICAMP (University of Campinas), Brazil (2020)
Geotechnical
Advisor: Dr. David de Carvalho

Thesis: Analysis of Lateral Load Tests on Pressure-Grouted Micropiles (Incopile System) in Diabase Residual Soil: Campinas, Brazil

B.Sc., Civil Engineering, UNICAMP (University of Campinas), Brazil (2016)
Concentration: Transportation and Geotechnics

Awards

Presidential Graduate Research Fellowship (2022 – 2025)
ADSC 2024-2025 Scholarship Award

Organizations

Geotechnical Society at Auburn (GSA), Vice-President (2022-2026)
ASCE / Geo-Institute, Member (Current)
ABMS (Brazilian Association of Soil Mechanics), Member (Current)

Languages

English (Fluent) | Spanish (Fluent) | Portuguese (Native)

Relevant Skills & Software

Technical: Geotechnical/structural design, analysis & construction, load testing, slope stability, soil–structure interaction, geotechnical instrumentation, soil investigation

Software: Slide2, GeoStudio, gINT, Geo5, Plaxis, FB-Deep, FB-Multipier, Abaqus, AutoCAD, Civil 3D, MATLAB, Python, CRBasic, LPile. Office suite.

Conference Participations

ASCE Geo-Congress 2026, Salt Lake City, UT, USA.
ASCE Geotechnical Frontiers 2025, Louisville, KY, USA. Paper presentation.
SEFE 10, 2023, 10th Seminar on Engineering of Specialty Foundations and Geotechnics, Sao Paulo, SP, Brazil. Former company's stand presentation.
XX COBRAMSEG 2022, 20th Brazilian Congress on Soil Mechanics and Geotechnical Engineering, Campinas, SP, Brazil. Paper presentation.
GEOCENTRO 2019, 5th edition of the Geotechnical Engineering Practice Symposium in the Midwest Region, Brasilia, DF, Brazil. Poster presentation.
SEFE 9 2019, 9th Seminar on Engineering of Specialty Foundations and Geotechnics, Sao Paulo, SP, Brazil. Company stand presentation.

Publications

Journal Publications

Barbosa, Y., Rocha de Albuquerque, P. J., Pinheiro Tarozzo, M. H., & de Carvalho, D. (2023). Behavior of a new laterally top-loaded post-grouted micropile in highly porous lateritic soil. Dyna, 90(225), 122-130.

Castaneda, L. F., Tarozzo, M. H. P., Vasconcelos, J. G. & Brian Anderson, J. (2026). Case Study: Evaluating the Effects of Hydrologic and Hydraulic Modeling Approaches for Pier Scour Depth Computation. Journal of Hydraulic Engineering, ASCE [Accepted for publication]

Conference Publications

Tarozzo, M. H. P., Castaneda, L. F., Vasconcelos, J. G., & Brian Anderson, J. (2025). Monitoring Pier Scour at Alabama Bridges Using Low-Cost Equipment. In Geotechnical Frontiers 2025 (pp. 520-528).

Tarozzo, M. H. P., Paludeto, T. M. L., de Carvalho, D., & de Albuquerque, P. J. R. (2022). Assessing the Axial Capacity of Hollow Auger Piles Using High-Strain Dynamic Load Testing: Pelotas, Rio Grande do Sul, Brazil. Proceedings of XX COBRAMSEG (pp. 2178–2185). https://doi.org/10.4322/cobramseg.2022.0275

Fiscina, L. F. G., Barbosa, Y., Tarozzo, M. H. P., Carvalho, D., & de Albuquerque, P. J. R. (2020). Application of the Fellenius Method for the Load Transfer Evaluation and Reinforced Concrete Deformability Modulus in Instrumented Load Tests. Proceedings of XX COBRAMSEG. Galoa Proceedings. https://proceedings.science/p/149478

Tarozzo, M. H. P.; Carvalho, D. (2019) Load Transfer Analysis of Augercast piles in Sandy and Collapsible Soil, in Campinas, SP. In: Proceedings of GEOCENTRO 2019, Brasília. ABMS. 8 p

Published Technical Reports

Vasconcelos, J. G., Anderson, J. B., Tarozzo, M., Guillot, T. E., & Galvis, L. F. C. (2025). Implementation of OMS-Based Scour Prediction and Real-Time Monitoring of Scour Processes for Alabama Bridges (No. ALDOT 931-053). Auburn University. Highway Research Center.

Other published articles

Tarozzo, M., Anderson, J. B., & Vasconcelos, J. G. (2026). Field monitoring for bridge pier scour – Low-cost sensing can reshape risk decision-making. ASCE GEOSTRATA Magazine, 30(4), 42–49.

Works in Preparation

Tarozzo, M.H.P., Vasconcelos, J.G., Anderson, J.B., Guillot & T.E., Castaneda, L.F. (2026). *Scour Monitoring in Turbid Shallow Flows: Effects of Turbidity Variability and Sensor Tuning* – Submitted to TRR journal.

Tarozzo, M.H.P., Ablan, E.R., Davidson, J.S. & Anderson, J.B. (2026). *Case-Calibrated Comparative Modeling of Pile-Bent and Pier Response to Vessel Impact* – Literature Review complete. Numerical modeling underway. Target journal: Journal of the Transportation Research Board, SAGE.

Tarozzo, M.H.P. & Anderson, J.B. (2026). *Experimental and System-Level Calibration of Steel H-Pile-Cap Connection Rotational Stiffness for Pile Bents* – Experiments completed, manuscript partially complete. Target journal: Journal of the Transportation Research Board, SAGE.

Tarozzo, M.H.P. & Anderson, J.B. (2027). *3D Finite-Element Parametric Study and Design Correlation of Rotational Stiffness of Steel H-Pile-Cap Connections* – Literature Review complete and numerical modeling underway. Target journal: Journal of Bridge Engineering, ASCE.

Anderson, J.B., Russell, C.F.W., & Tarozzo, M.H.P. (2026). *Evaluation of Pile Load Testing State of Practice for ALDOT Projects* - Under review by co-authors. Final technical report for a project with the Highway Research Center.

Tarozzo, M.H.P. & Anderson, J.B. (2027). *Experimental Evidence and Model Assessment of Strong-Axis Fixity of Steel H-Pile-Cap Connections under Bridge Longitudinal Loads* - Experiments completed. Target journal: Journal of Bridge Engineering, ASCE.

Tarozzo, M.H.P. & Anderson, J.B. (2027). *Evaluation of Static Pile Capacity Prediction Methods Against Static Axial Load Test Results in Alabama* – Analysis and manuscript underway. Target conference: IFCEE 2027.

Tarozzo, M.H.P., Belk, N.A., Anderson, J.B. & Lien, B. (2027). *Evaluating Point of Fixity for Laterally Loaded Piles and Drilled Shafts* - Analysis and manuscript underway. Target journal: Journal of Geotechnical and Geoenvironmental Engineering, ASCE.