

FINAL PROGRAM



GEO-CONGRESS 2023

Los Angeles, California, March 26-29, 2023

Sustainable Infrastructure Solutions from the Ground Up



Los Angeles Convention Center

www.geocongress.org

Welcome to **Geo-Congress 2023**

Schedule at a Glance (Subject to change)

All events take place at the Los Angeles Convention Center located at 1201 S Figueroa Street; unless otherwise noted.

Sunday, March 26

7:00 – 11:00 a.m.	Registration Open, <i>West Lobby</i>
8:00 a.m. – 11:00 p.m.	Committee Meetings, <i>See page 5</i>
8:00 a.m. – 5:00 p.m.	Short Course: In-Situ Testing Using the Seismic Piezocone, <i>504</i>
8:00 a.m. – 5:00 p.m.	Short Course: Simple Methods to Rapidly Characterize and Model Unsaturated Soil Behavior, <i>505</i>
8:00 a.m. – 12:00 p.m.	Short Course: DMT and SDMT, <i>506</i>
11:00 a.m. – 12:30 p.m.	Registration Closed for Lunch, <i>West Lobby</i>
12:30 – 7:00 p.m.	Registration Open, <i>West Lobby</i>
1:00 - 5:00 p.m.	Short Course: Introduction to Numerical Modeling in Geotechnical Engineering, <i>506</i>
1:00 – 6:00 p.m.	Exhibitor Setup, <i>West Exhibit Hall B</i>
2:00 – 2:30 p.m.	G-I Student Orientation, <i>411</i>
2:30 – 3:30 p.m.	G-I Student Professional Development Workshop, <i>411</i>
3:30 – 4:00 p.m.	G-I Geo-Wall Captains Meeting, <i>409A</i>
4:00 – 5:00 p.m.	AGP Induction Ceremony, <i>Petree</i>
5:00 – 6:30 p.m.	Opening Remarks & H. Bolton Seed Award Lecture, <i>Petree</i>
6:00 – 8:00 p.m.	Exhibit Hours, <i>West Exhibit Hall B</i>
6:30 – 8:00 p.m.	Opening Reception, <i>West Exhibit Hall B</i>
8:00 – 9:30 p.m.	Happy Hour presented by the Outreach and Engagement Committee and G-I Southern California Chapters, <i>Offsite</i>

Monday, March 27

7:00 a.m. – 12:00 p.m.	Registration Open, <i>West Lobby</i>
8:00 – 10:00 a.m.	Welcome, Keynote Lecture: Space Exploration at JPL, Geo-PIT, <i>Petree</i>
9:00 a.m. – 5:00 p.m.	Exhibit Hours, <i>West Exhibit Hall B</i>
10:00 – 10:30 a.m.	Morning Networking Break, <i>West Exhibit Hall B</i>
10:30 a.m. – 3:00 p.m.	Student Competitions, <i>West Exhibit Hall B</i>
10:00 a.m. – 9:00 p.m.	Committee Meetings, <i>See page 5</i>
10:30 a.m. – 12:00 p.m.	Technical and Panel Sessions, <i>See pages 10-11</i>
12:00 – 1:00 p.m.	Registration Closed for Lunch, <i>West Lobby</i>
12:00 – 1:00 p.m.	Lunch, <i>West Exhibit Hall B</i>
12:15 – 12:45 p.m.	Vendor Demo: Deep Excavation LLC, <i>Geo-Institute Theatre, Booth 201</i>
1:00 – 2:30 p.m.	Technical and Panel Sessions, <i>See pages 10-11</i>
1:00 – 7:00 p.m.	Registration Open, <i>West Lobby</i>
2:30 – 4:30 p.m.	Poster Session, <i>West Exhibit Hall B</i>
2:30 – 4:30 p.m.	Happy Hour, <i>West Exhibit Hall B</i>
2:45 – 3:15 p.m.	Vendor Demo: Itasca Consulting Group, <i>Geo-Institute Theatre, Booth 201</i>
3:30 – 4:00 p.m.	Vendor Demo: Seequent, A Bentley Company, <i>Geo-Institute Theatre, Booth 201</i>
5:00 – 6:30 p.m.	Shamsher Prakash Lecture and Geo-PIT, <i>Petree</i>
6:30 – 10:00 p.m.	G-I Special Event: Chicago Bulls at L.A. Clippers, <i>Crypto.com Arena</i>
6:30 – 7:30 p.m.	G-I Student Program: Organizational Members & Student Travel Grant Winners Job Fair, <i>502B</i>
7:30 – 8:30 p.m.	G-I Student Program: Organizational Member & Student Reception, <i>502B</i>

Tuesday, March 28

7:00 a.m. – 12:00 p.m.	Registration Open, <i>West Lobby</i>
8:00 – 10:00 a.m.	CEO Panel Discussion, Geo-PIT, Student Competition Awards, <i>Petree</i>
9:00 a.m. – 5:00 p.m.	Exhibit Hours, <i>West Exhibit Hall B</i>
10:00 – 10:30 a.m.	Morning Networking Break, <i>West Exhibit Hall B</i>
10:00 a.m. – 9:00 p.m.	Committee Meetings, <i>See page 5</i>
10:15 – 10:45 a.m.	An Update from the ASCE Foundation, <i>Geo-Institute Theatre, Booth 201</i>
10:30 a.m. – 12:00 p.m.	Technical and Panel Sessions, <i>See pages 12-13</i>
12:00 – 1:00 p.m.	Registration Closed for Lunch, <i>West Lobby</i>
12:00 – 1:00 p.m.	Lunch, <i>West Exhibit Hall B</i>
12:15 – 12:45 p.m.	Vendor Demo: Geosetta, <i>Geo-Institute Theatre, Booth 201</i>
1:00 – 2:30 p.m.	Technical and Panel Sessions, <i>See pages 12-13</i>
1:00 – 6:00 p.m.	Registration Open, <i>West Lobby</i>
2:30 – 4:30 p.m.	Poster Session, <i>West Exhibit Hall B</i>
2:30 – 4:30 p.m.	Happy Hour, <i>West Exhibit Hall B</i>
2:45 – 3:15 p.m.	Vendor Demo: Kyowa Americas Inc., <i>West Exhibit Hall B – Theater, G-I Booth 201</i>
3:30 - 4:00 p.m.	Geo-Institute: IDEA + GeoTechTools, <i>Geo-Institute Theatre, Booth 201</i>
5:30 – 7:00 p.m.	Awards Presentation & Karl Terzaghi Award Lecture, <i>Petree</i>

Wednesday, March 29

7:00 a.m. – 12:00 p.m.	Registration Open, <i>West Lobby</i>
8:00 – 10:00 a.m.	Turkey-Syria Earthquakes Panel Discussion and Geo-PIT, <i>Petree</i>
9:00 a.m. – 1:00 p.m.	Exhibit Hours, <i>West Exhibit Hall B</i>
10:00 – 10:30 a.m.	Morning Networking Break, <i>West Exhibit Hall B</i>
10:00 a.m. – 12:00 p.m.	Committee Meetings, <i>See page 5</i>
10:30 a.m. – 12:00 p.m.	Technical and Panel Sessions, <i>See pages 16-17</i>
12:00 – 1:00 p.m.	Lunch, <i>West Exhibit Hall B</i>
1:00 – 2:30 p.m.	Ralph B. Peck Award Lecture and Geo-PIT, <i>Petree</i>
1:00 – 6:00 p.m.	Exhibitor Move Out, <i>West Exhibit Hall B</i>
2:30 – 3:00 p.m.	Closing Ceremony, <i>Petree</i>

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Program Committee

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CONFERENCE APP

Download Eventsential from the Google Play or Apple App Store, then search for ASCE, then download the **ASCE Geo-Congress 2023 app**.



G-I Special Event:

Chicago Bulls at Los Angeles Clippers

Crypto.com Arena

6:30 – 8:00 p.m. Exchange registration ticket for game ticket and food voucher

7:30 – 10:00 p.m. Chicago Bulls vs. L.A. Clippers

Join us for a night of LA basketball! Be there at Crypto.com Arena Monday night when the Clippers take on the Bulls!

The ticket you receive at the registration desk can be redeemed outside Crypto.com Arena for your game ticket and food voucher from 6:30 – 8:00 p.m. on Monday night.

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Awards Lectures



Karl Terzaghi Lecture

Paul W. Mayne, Ph.D., P.E., M.ASCE

"Contributions towards Geoparameter Evaluation Using the Cone Penetration Test"



Ralph B. Peck Lecture

Limin Zhang, Ph.D., F.ASCE

"Risk-Informed Decision in Geotechnical Design"



H. Bolton Seed Award Lecture

J. David Frost, Ph.D., P.E., P.Eng., F.ASCE

"The Role of Compatibility in Geotechnical Interface Behavior"



Shamsher Prakash Lecture

Jason T. DeJong Ph.D., F.ASCE

"The Influence of Soil Gradation on Penetration Resistance and the Dynamic Response of Level and Sloping Ground"

Committee Program

Location: Los Angeles Convention Center
1201 S Figueroa Street

Sunday, March 26, 2023

8:00 a.m. – 12:00 p.m.

Technical Coordination Council (by Invitation Only) | 503

1:00 – 5:00 p.m.

Technical Chair Workshop (by Invitation Only) | 503

2:30 – 4:00 p.m.

USUGER | 501A

8:00 – 9:30 p.m.

JGGE Editorial Board | 501A

9:30 – 11:00 p.m.

Technical Publications Committee | 501A

Monday, March 27, 2023

10:00 a.m. – 12:00 p.m.

Computational Geotechnics | 501B
Deep Foundations | 503
Local Involvement Committee (by invitation only) | 511A
Rock Mechanics | 501A
Sustainability in Geotechnical Engineering | 511C
Unsaturated Soils | 501C

1:00 – 3:00 p.m.

ASCE G-I INNC Committee | 503
Grouting | 501C
Outreach and Engagement Committee | 511A
Pavements | 501A
Soil Properties and Modeling | 501B

3:00 – 5:00 p.m.

Embankments, Dams, and Slopes | 503
Geophysical Engineering | 501C
Risk Assessment and Management | 501B
Shallow Foundations | 501A

7:00 – 9:00 p.m.

International Activities Committee | 511A

Tuesday, March 28, 2023

10:00 a.m. – 12:00 p.m.

DFI Subsurface Characterization | 511B
Earth Retaining Structures | 501A
Geosynthetics | 501B
Student Leadership Council | 511C
IDEA Review Panel | 511A

1:00 – 3:00 p.m.

Eng. Geology & Site Characterization | 501A
Geoenvironmental Engineering | 501B
Geotechnics of Soil Erosion | 501C
Professional Practice Council | 511A

3:00 – 5:00 p.m.

Earthquake Engineering & Soil Dynamics | 501A
Soil Improvement | 503

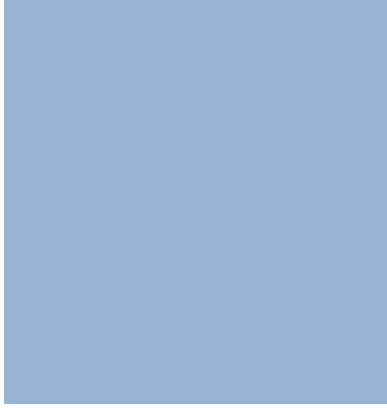
7:00 – 9:00 p.m.

Underground Engineering & Construction | 501B

Wednesday, March 29, 2023

10:00 a.m. – 12:00 p.m.

Organizational Member Council | 511A
Student Participation Committee | 511C



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GEO-CONGRESS 2024

Vancouver, British Columbia, February 25–28, 2024

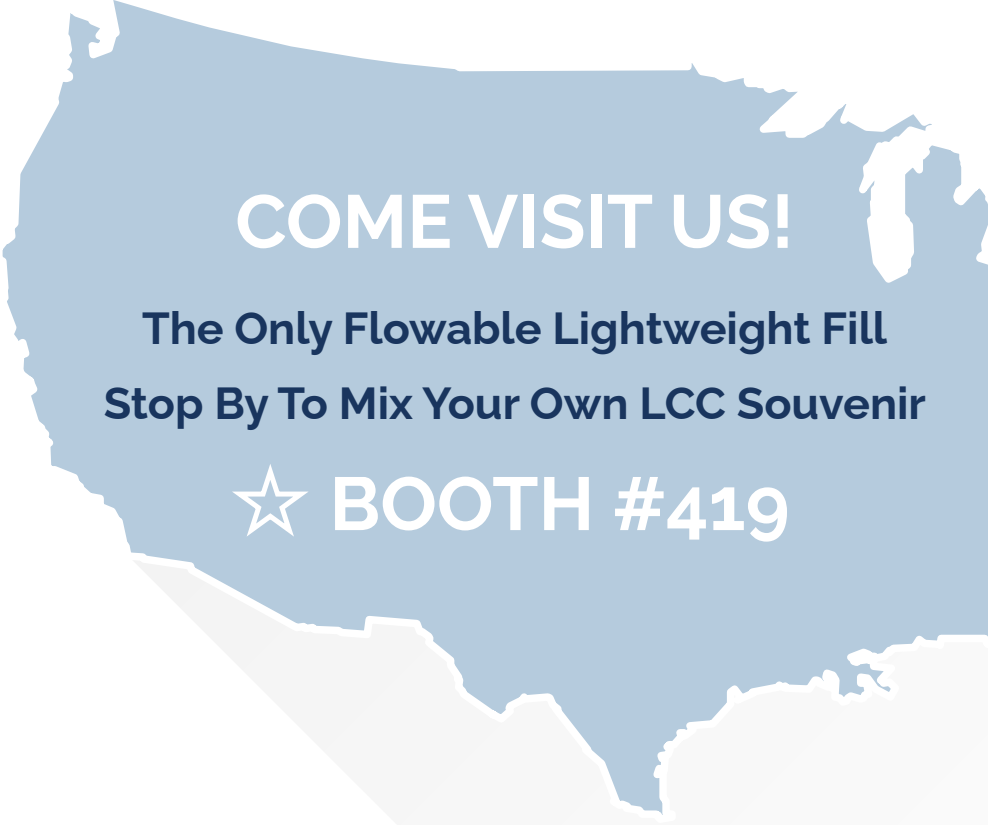
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Special Topics

- Ports
- Dams
- Bridges
- Sustainability in geotechnics
- Technical and societal dimensions of resilience
- Cascadia – M9
- Cold regions and cryosphere applications
- Near- and off-shore geotechnics
- Tailings
- Landslides
- Tech in geotech
- Urban geotechnics
- Underground structures
- Energy geotechnics
- Renewable energy

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Geo-Challenge Student Competitions

The National Geo-Challenge Student Competitions consist of five events in which students are invited to participate each year at the annual conference of the ASCE Geo-Institute. A brief summary of the objective of each competition is provided below:

GeoWall: Students work in teams of at most four individuals to design and build a model mechanically stabilized earth (MSE) retaining wall using paper reinforcement taped to a posterboard wall facing. The design should strive to use the least amount of reinforcement to support the retained soil and design loads. In the competition this year, teams were asked to construct a three-sided MSE wall to support self-weight and applied vertical, horizontal and impact loads. A total of twelve teams were invited to participate. The 2023 competition is directed by Beena Ajmera, Ph.D., from Iowa State University.

GeoPrediction: The objective of the competition is to develop an accurate prediction of geotechnical behavior given detailed information regarding subsurface,

boundary, and initial conditions, as well as the geotechnical/structural/hydraulic loading. Students may use geotechnical software, empirical correlations, or develop a simple computer code to make this prediction. In the competition this year, teams of two students worked to estimate the movement of a slope failure. The 2023 competition is directed by Matthew Sleep, Ph.D., from the University of Cincinnati.

GeoPoster: In this competition, students present posters on geotechnical and/or geoenvironmental engineering topics. These posters may be developed from senior design projects, classroom design projects or student research experiences and contain original work completed by the student or pair of students under the direction of a professor(s). This year the posters focused on sustainability. Ten teams were invited to the competition. The 2023 GeoPoster competition is directed by Asif Ahmed, Ph.D., from SUNY Polytechnic Institute.

GeoVideo: The objective of the GeoVideo competition is to develop short videos

explaining various geotechnical concepts that could be used in classrooms at various levels (elementary school through college) and by the lay person to understand geotechnical principles. This year students worked in teams of up to four individuals to create videos around the theme of sustainable infrastructure solutions from the ground up or any of the core geotechnical engineering topics. Three student teams were invited to the competition this year. Vote for your favorite video from the conference app! The 2023 competition is directed by Mohammad Yamin, Ph.D., from Minnesota State University, Mankato.

GeoShirt: In the GeoShirt competition, students design a t-shirt for the 2023 Geo-Challenge Competitions. The shirt is intended to capture the spirit of the five competitions, the theme of the conference and the venue of the event. The winning shirt has been printed and is being distributed to student attendees during the Student Competition events on Monday. The 2023 competition is directed by Erik Jensen, Ph.D., from the University of Colorado Boulder.

Directors: Beena Ajmera, Ph.D., Iowa State University, Matthew Sleep, Ph.D., University of Cincinnati, Asif Ahmed, Ph.D., SUNY Polytechnic Institute, Mohammad Yamin, Ph.D., Minnesota State University, Mankato and Erik Jensen, Ph.D., University of Colorado Boulder

Thank you to our sponsors!

Gannett Fleming, Inc., The Reinforced Earth Company, ICPI-NCMA, GeoWall Designs, Keller, Nomis Seismographs, and Stantec Consulting Services Inc.

Come check out the student competitions and vote for your favorite GeoVideo!



Monday, March 27, 2023

8:00 – 10:00 a.m.		Welcome, Keynote Lecture: Space Exploration at JPL, Geo-PIT, <i>Petree</i>											
10:00 – 10:30 a.m.		Morning Networking Break, <i>West Exhibit Hall B</i>											
10:30 a.m. – 3:00 p.m.		Geo-Challenge Student Competition, <i>West Exhibit Hall B</i> Moderator: Beena Ajmera											
10:30 a.m. – 12:00 p.m.		Technical Sessions											
Track A Room 504		Track B Room 505		Track C Room 506		Track D Room 510		Track E Room 512		Track F Room 515A			
Pavements Moderators: Kevin Foye and Eli Cuelho		Data Moderators: Chukwuebuka Nweke and Ming Xiao		Geophysics and Ground Motion Moderators: Kristin Ulmer and Khiem Tran		Numerical and Soil Modeling Moderators: Estefan Garcia and Ryan Beemer		Geosynthetics / Landfills Moderators: Lois Schwarz and Bernardo Castellanos		Unmanned Aerial System (UAS) Applications for Infrastructure Health Monitoring and Geotechnical Asset Management Moderators: Anand Puppala, Sissy Nikolaou, Derrick Dasenbrock, and Christine Beyzaei			
<p>Performance Evaluation of Base Course Gravel and Fine Subgrade Combinations for In-situ Cementitious Stabilisation of Pavements, Greg White</p> <p>Composite Resilient Modulus of Geogrid Stabilized Pavement Foundation, Prajwal Tamrakar</p> <p>Mechanistic Analysis and Design of Mixtures and Pavements Using a Two-way Coupled Multiscale Computational Modeling, Yong-Rak Kim</p> <p>Sustainable Unpaved Roadway Design with Multi-Axial Geogrid for A Windfarm Project, Alec Anderson</p> <p>Negative Effect of Tannic Acid on the Strength of Cement-stabilized Soil, Sherif Abdelaziz</p> <p>Numerical Analysis of Hydraulic Conductivity Effect on the Utilization of Recycled Asphalt Pavement in Highway Design, Asli Yalcin Dayigöglü</p>		<p>DEM-MBD Coupled Simulation of a Burrowing Robot in Dry Sand, Sarina Shahhosseini</p> <p>High-Pass Corner Frequency Selection for Implementation in the USGS Automated Ground Motion Processing Tool, Maria Ramos-Sepulveda</p> <p>Soil Moisture Characterization from UAV based Optical and Thermal Infrared (TIR) Images, Rakesh Salunke</p> <p>Increasing Data Transfer Efficiency and Accuracy Through DIGGS: Expanding DIGGS to Include Soil Permeation and Compaction Grouting, Amanda Wachenfeld</p> <p>Application of Distributed Fiber Optic Sensing for Subsurface Levee Monitoring, R. Andrew Yeskoo</p> <p>Relational Database for California Strong Ground Motions, Tristan Buckreis</p>		<p>Ground Motion Models for Inelastic Spectra using NGA-West2 Database, Mahdi Bahrapouri</p> <p>Development and Verification of Non-ergodic Ground-Motion Methodologies and Modeling Tools, Grigorios Lavrentiadis</p> <p>Surface Wave Site Characterization with MATLAB and Geopsy, Dennis Hiltunen</p> <p>Reliability of Shallow Bedrock Depth Determination from HVSr Measurements in Central Missouri, Brent Rosenblad</p> <p>Numerical Investigation of Full Waveform Tomography to Identify Anomalous Conditions and Untreated Zones in Jet Grout Columns, Joseph Coe</p> <p>Reducing Mode Assignment Errors in Surface Wave Inversion for Sites with a Very Shallow Impedance Contrast Using Love Type Surface Waves, Salman Rahimi</p>		<p>Modeling Cracks in Clay at the Nanoscale Through Molecular Dynamics, Xiaoyu Song</p> <p>A Comparative Study on the Performance of CFD/LBM-DEM Coupling in Predicting Soil Fluidization, Thanh Nguyen</p> <p>Hybrid Finite Element and Material Point Method to Simulate Granular Column Collapse from Failure Initiation to Runout, Brent Sardo</p> <p>A Multi-phase Field Model for Simulating Ice Lens Growth and Thawing in Frozen Porous Media, Hyoung Suk Suh</p> <p>Influence of Time-Dependent Soil Thermal Conductivity on Performance Assessment of Energy Foundations, Arjun Sivaprasad</p> <p>Exploring Box Fixity and Platen Texture in Large-Scale Direct Shear Testing, Nicholas Culbreth</p>		<p>Carbon Emissions Quantification of Landfill Final Cover Systems, Rutuparna Joshi</p> <p>Chemico-osmotic Coefficients of Geosynthetic Clay Liners Under Different Confinement Conditions, Francesco Mazzieri</p> <p>Effects of Leachate Recirculation Systems on Slope Stability of Bioreactor Landfills, Anumita Mishra</p> <p>Development of Cation Exchange Processes in Geosynthetic Clay Liners, Kurt Katzenberger</p> <p>Climate Impacts of Trace Gas Emissions from Solid Waste Landfills, James Hanson</p> <p>Coupled Thermo-Hydro-Mechanical Shear Behavior of Interfaces Between Geomembranes and Geosynthetic Clay Liners, Juan Hou</p>		<p>Panel Discussion</p> <p>Invited panel session will demonstrate the applications of UAS-based sensors for geotechnical asset condition monitoring, change detection, extreme-event reconnaissance, modeling, and asset management through various case studies.</p> <p>Surya S. C. Congress, <i>North Dakota State University</i></p> <p>Navid Jafari, <i>Louisiana State University</i></p> <p>Dimitrios Zekkos, <i>University of California at Berkeley</i></p> <p>Joseph Wartman, <i>University of Washington</i></p> <p>Brian Harris, <i>US Army Corps of Engineers</i></p>			
12:00 – 1:00 p.m.		Lunch, <i>West Exhibit Hall B</i>											
1:00 – 2:30 p.m.		Technical Sessions											
Track A Room 504		Track B Room 505		Track C Room 506		Track D Room 510		Track E Room 512		Track F Room 515A		Track G Room 515B	
Unsaturated Soils Moderators: Omid Ghasemi Fare and Soookie Nam		Engineering Geology Moderators: Diane Moug and Clint Wood		Geoenvironmental Moderators: Theresa Loux and Melissa Beauregard		Machine Learning Moderators: Paolo Zimmaro and Pelin Ozener		Soil Improvement Moderators: Aaron Gallant and Mike Gomez		Next Generation Liquefaction (NGL) Model Development Moderator: Kristin Ulmer		State DOT Award Presentations for Practical and Innovative Engineering Moderator: Silas Nichols	
<p>Unified Consolidation-Creep-Collapse Phenomena in an Unsaturated Sand-Bentonite Mixture, Mohsen Ajdari</p> <p>An Experimental Investigation of Thermally Induced Hydraulic Hysteresis in Frozen Unsaturated Silts, Tugce Baser</p> <p>Suction Volume Change Indices for Natural and Recompacted Clay Soils, Austin Olaiz</p> <p>Centrifuge Modeling to Estimate p-y Curves in Unsaturated Cohesionless Soils, Majid Ghayoomi</p> <p>Prediction of the Non-isothermal Shrinkage of Clayey Soils through a Fully Coupled Thermo-Hydro-Mechanical Model, Omid Ghasemifare</p> <p>Stability Analysis of Unsaturated Slopes Stricken by Wildfires, Masood Abdollahi</p>		<p>Potential Applications of Hyperspectral Imaging on Weak Rock Degradation Studies in Engineering Geology, Lena Selen</p> <p>Application of Geostatistical Sequential Simulation Methods for Probabilistic 3D Subsoil Modeling and Uncertainty Quantification: Concept and Examples, Andreas Witty</p> <p>Evaluation of the Maximum-Likelihood Estimates of Site Fundamental Frequencies for a Subset of KiK-net Strong Motion Data, Mohammad Yazdi</p> <p>Using MASW and Soil Borings to Characterize Heterogeneity of an Existing Solid Waste Landfill, Kevin Foye</p> <p>Simplified Calibration Procedure for Total Earth Pressure Cells, Will Baker</p> <p>Methods for Enhancing Uniformity of Biocementation Treatment in Sand, Jian Chu</p>		<p>Bioashes and Steel Slug as Alternative Binders in Ground Improvement of Quick Clays, Priscilla Paniagua</p> <p>Potential on Carbon Dioxide Utilization to Improve Recycled Concrete Aggregates and Reduce Carbon Footprint, Seunghee Kim</p> <p>Coal Combustion Residuals Geotechnical Behavior Under Dewatering Activities, Jaime Mercado</p> <p>Geoenvironmental Condition Improvement by Using Microbial Fuel Cell, Azizul Moqsud</p> <p>Landfill Odor (Hydrogen Sulfide) Control Using Novel Biogeochemical Cover System, Krishna Reddy</p> <p>Thermo-Hydro-Mechanical Response of an Advanced Geothermal Energy Storage System in a Sedimentary Basin, Tugce Baser</p>		<p>A Machine Learning Approach to Predicting Pore Pressure Response in Liquefiable Sands under Cyclic Loading, Yongjin Choi</p> <p>Data-Driven Modeling of Seismic Energy Dissipation of Rocking Foundations Using Decision Tree-Based Ensemble Machine Learning Algorithms, Sivapalan Gajan</p> <p>Physics-guided Machine Learning in Geotechnical Earthquake Engineering: Progress, Gaps, and Opportunities, Katherine Cheng</p> <p>Effect of Machine Learning Algorithms on Detection of Landslides Caused by the 2015 Lefkada Earthquake, Jih-Rou Huang</p> <p>A Machine Learning-Based Approach for Predicting Structural Settlement on Layered Liquefiable Soils Improved with Densification, Yu-Wei Hwang</p> <p>CPT-based Soil Classification Through Machine Learning Techniques, Sara Khoshnevisan</p>		<p>Instrumented Testing of Soft Clay Behaviors for the Savannah Container Terminal, Yan Jiang</p> <p>Reliability Analysis of Polyvinyl Alcohol Fiber-Reinforced Soft Subgrade Soil treated with Lime and Alkali Activated Stabilizer: A Comparative Study, Bhaskar Chittoori</p> <p>Dynamic Compaction: A Proven Ground Improvement Method for Landfill Sites, Chris Woods</p> <p>Effect of Exposure to Water at Different Temperatures During Curing on the Strength of Cement-treated Soil, Sherif Abdelaziz</p> <p>Study on Crosslink-Induced Gelation of Xanthan Gum Biopolymer and Its Soil Strengthening Behavior as Sustainable Grout Material, Gye-Chun Cho</p> <p>Experimental Evaluation of Stress Path of Weak Foundation Soil Reinforced with Recycled Plastic Pins, Faria Fahim Badhon</p>		<p>Panel Discussion</p> <p>Modeling teams in the Next Generation Liquefaction (NGL) project are using a common database of liquefaction case histories to develop new liquefaction models. Members of the modeling teams will present progress updates and participate in a panel discussion to solicit community feedback.</p> <p>Jon Stewart, <i>UCLA</i></p> <p>Scott Olson, <i>University of Illinois, Urbana-Champaign</i></p> <p>Shideh Dashti, <i>University of Colorado Boulder</i></p> <p>Brian Carlton, <i>Norwegian Geotechnical Institute</i></p> <p>Ken Hudson, <i>UCLA</i></p>		<p>Panel Discussion</p> <p>In honor of former FHWA geotechnical engineer Khamis Haramy, this session highlights the best presentations from State DOT personnel delivered during one of the 2022 state geotechnical regional conferences. The presentations support an award series that recognizes innovation and practical approaches in state DOT work.</p> <p>Erica Aamodi, <i>Idaho Transportation Department</i></p> <p>Zachary Troesser, <i>Missouri DOT</i></p> <p>Tom Santee, <i>North Carolina DOT</i></p> <p>Jesse Rausser, <i>Louisiana DOTD</i></p> <p>Steve Heiser, <i>New York DOT</i></p> <p>Silas Nichols, <i>Federal Highway Administration</i></p>	
2:30 – 4:30 p.m.		Poster Session and Happy Hour, <i>West Exhibit Hall B</i>											
5:00 – 6:30 p.m.		Shamsher Prakash Lecture and Geo-PIT, <i>Petree</i>											
6:30 – 10:00 p.m.		Chicago Bulls at L.A. Clippers, <i>Crypto.com Arena</i>											

Tuesday, March 28, 2023

8:00 – 10:00 a.m.	CEO Panel Discussion, Geo-Pit, Student Competition Awards , <i>Petree</i>												
10:00 – 10:30 a.m.	Morning Networking Break , <i>West Exhibit Hall B</i>												
10:30 a.m. – 12:00 p.m.	Technical Sessions												
Track A Room 504		Track B Room 505		Track C Room 506		Track D Room 510		Track E Room 512		Track F Room 515A			
Major Projects and Case Histories Moderators: Brian Zelenko and Kord Wissmann		Liquefaction Moderators: Ramin Motamed and Bret Lingwall		Thermal Moderators: David Frost and Idil Akin		Deep Foundations Moderators: Ravee Raveendra and Arvin Farid		Mitigation of Wildfire Effects Using Naturally-Sustainable Practices Moderator: Ghada Ellithy		Master Planning for Inclusion, Diversity, Excellence, and Advancement (IDEA) In Infrastructure Moderator: Amber Spears			
<p>Liquefaction Remediation of Port of San Diego's B Street Pier Facility Using Deep Soil Mixing, Matteo Montesi</p> <p>Geotechnical Challenges Associated with the Design of the REM Project in Montreal, Riad Diab</p> <p>Effects of Tar on CPT and Shear Wave Velocity Correlations for the LA Metro Purple Line (D-Line), Taki Chrysovergis</p> <p>Computational Back-Analysis During Excavation of the Regional Connector Cavern, Haotian Zheng</p> <p>Preliminary Development of Sinkhole Hazard Charts for Stormwater Pond Flooding in the Silver Springs Recharge Basin, Marion County, Florida, USA, Ryan Shamet</p> <p>Semi-Empirical Method for Excavation-Induced Surface Displacements – Los Angeles Metro K Line Crenshaw/LAX Transit Project, Charbel Beaino</p>		<p>Reactive Transport Model to Evaluate Process Performance of Bio-Mediated Liquefaction Mitigation Underneath Existing Structures, Patrick Kwon</p> <p>Kriging Interpolation of Ground Motion Residuals at Liquefaction Case History Sites, Kenneth Hudson</p> <p>Liquefaction Strength of Ottawa Sand: CDSS Experiments and ANN Modeling, Sarra Lbibb</p> <p>Importance of Advanced Analyses in Liquefaction Hazard Studies, Brian Carlton</p> <p>Use of Geostatistical Analyses for Characterizing Variability in NGL Database Lateral Spreads, Bret Lingwall</p> <p>An Expanded Dataset of Overburden (Ka) and Initial Static Shear Stress (Ks) Correction Factors Values from Published Cyclic Laboratory Tests for Liquefaction Triggering Analyses, Kristin Ulmer</p>		<p>Evolution of Shaft and Tip Resistances in Energy Piles throughout a Full Heating-Cooling Cycle, Dunja Peric</p> <p>Erosion Potential of Frost-Susceptible Soils Subjected to Freeze-Thaw Cycles, Tejo Bheemasetti</p> <p>Effect of Freezing-Thawing on the Preconsolidation Pressure of Clays, Seyed Morteza Zeinali</p> <p>Frost Susceptibility Evaluation of Clay and Sandy Soils, Mohammad Wasif Naqvi</p> <p>Development of a Temperature-Controlled Direct Shear Box for Frozen Samples, Beena Ajmera</p> <p>Effect of Thermal Volume Change on the Permeability of Kaolin Clay During a Heating-Cooling Cycle, Omid Ghassemi-Fare</p>		<p>Karst Resistant Deep Foundation System – A Case History, Matthew Detman</p> <p>Optimal Design of a Deeply Embedded Ring Anchor in Soft Clay Overlying Bedrock under Vertical Loading, Junho Lee</p> <p>Comparative Study on Performance of CFA Piles and Drilled Shafts in Dos Bocas, Mexico, Chulmin Jung</p> <p>Axial Response of Driven Steel Pile at Clearwater, MN Using Elastic Solution and Seismic Piezocone, Paul Mayne</p> <p>A Numerical Approach to Correlate Energy Performance of Prototype and Model-Scale Geothermal Piles, Arvind Tiwari</p> <p>Evaluation of a Semi-Empirical p-y Model for Caliche Material Based on Numerical Simulations of Field Load Tests in Cemented Soils, Fahim Mashroor Bhuiyan</p>		<p>Panel Discussion</p> <p>Naturally-sustainable efforts to mitigate the adverse effects of wildfires as adopted by the Corps of Engineers. Efforts include; measures to control debris flow and sediment management of post-wildfire using in situ materials, hydraulic modeling of watersheds to predict flooding downstream, and MICP to treat wildfire-altered soils aiming to improve their erodibility, infiltration and strength properties.</p> <p>Ian Floyd, <i>USACE / Engineer Research and Development Center (ERDC)</i></p> <p>Ghada Ellithy, <i>Embry-Riddle Aeronautical University (ERAU)</i></p> <p>TBD, <i>Desert Research Institute</i></p> <p>TBD, <i>Desert Research Institute</i></p>		<p>Panel Discussion</p> <p>Master Planning for Inclusion, Diversity, Excellence, and Advancement (IDEA) in Infrastructure is a panel session that discusses how civil engineers holistically tackle disparities within infrastructure to uplift the public, marginalized stakeholders, and the new generation of emerging civil engineers.</p> <p>Tierra Bills, <i>Assistant Professor, CEE, Public Policy, University of California, Los Angeles</i></p> <p>Joanna Smith, <i>Geotechnical Engineer, Founder, Daley Smith STEM</i></p>			
12:00 – 1:00 p.m.	Lunch in Exhibit Hall												
1:00 – 2:30 p.m.	Technical Sessions												
Track A Room 504		Track B Room 505		Track C Room 506		Track D Room 510		Track E Room 512		Track F Room 515A		Track G Room 515B	
Sustainability Moderators: Halil Ceylan and Hai Lin		Geosynthetics Moderators: Mark Wayne and Kristin Sample-Lord		Earth Retaining Structures Moderators: Jay McKelvey and Erol Tutumluer		Bio-Mediated Moderators: Alexandra Clara Saracho and Leon VanPaassen		Underground Construction Moderators: Hanumanth Kulkarni and Jongwan Eun		Foundation Performance of the Millennium Tower Moderator: Jonathan P. Stewart		Navigating the New Arctic: A Geotechnical Perspective Moderator: Majid Ghayoomi	
<p>FHWA NextScour Case Studies: Bridging Hydraulic Loads with Soil Erosion Resistance, Daniel Alzamora</p> <p>Impact of Surface Roughness Measurements on the Erosion Function of Soils, Jennifer Nicks</p> <p>Development of a New Empirical Model for Predicting Underwater Noise Due to Pile Driving, Raphael Crowley</p> <p>Laboratory Evaluation of Small Strain Elastic Parameters of Coal Ash from Bender Element Tests, B Janaki Ramaiah</p> <p>Review of Life Cycle Assessment Evaluation of Geotechnical Systems, J.T. DeJong</p> <p>Application of Environmental Product Declarations in Sustainability of Geotechnical Structures, Fariborz Tehrani</p>		<p>Geotextile Filter Design Using Pore Size Distribution, Richard Sack</p> <p>Shear Response of Non-Dilative Interfaces: A Micromechanical Perspective, Lalit Kandpal</p> <p>Use of Synthetic Energy Absorbing Layer (SEAL) in Rail Substructure to Minimize Track Degradation, Buddhima Indraratna</p> <p>Effects of Traffic Loading Magnitude and Frequency on the Performance of Geocell-Reinforced Flexible Pavements, Aritra Banerjee</p> <p>Experimental Investigation of the Suitability of 3D Printing for Soil-Continuum Interface Studies, V.L. Gayathri</p> <p>Analyzing the Feasibility of Using Shallow Geothermal Energy to Prohibit Pavement Thermal Cracking: Field Testing, Omid Ghassemi-Fare</p>		<p>Long-Term Field Monitoring of Lateral Loads in Semi-Integral Bridge Foundations, Behdad Mofarraj</p> <p>Durability Testing of Geogrid in High pH Conditions for Sustainable Alternative MSE Backfill, Laura Spencer</p> <p>A Study of the Use of Ultra-Lightweight Foamed Glass Aggregate for Retaining and MSE Wall Backfill, Theresa Loux</p> <p>Long-Term Performance of Recycled Plastic Pins in Increasing the Base Resistance of MSE Wall Base, Sehneela Sara Aurpa</p> <p>Back-to-Back Mechanically Stabilized Earth Walls: Technical Review, Turki Alsharari</p> <p>Early Exposure to FEM to Enhance Undergraduate Engagement in Geotechnical Engineering, Osvaldo Vitali</p>		<p>Effect of MICP Treatment in Modulus Reduction and Damping Curves on Poorly Graded Sand and Nonlinear Site Response Analysis, Kyunguk Na</p> <p>The Effect of the Coefficient of Uniformity on the Dynamic Properties of MICP-Treated Sands, Marlee Reed</p> <p>Evaluating Injection Strategies Microbially-Induced Calcite Precipitation, and Implications for Applications to Road Structures, Hudson Dorian</p> <p>Effect of Bio-Cementation on Drained Instability of Poorly Graded Sand with Sub-Angular Particle Shapes, Ehsan Yazdani</p> <p>A Novel Approach to Control Ice Formation with the Psychrophilic Microbes, Tejo Bheemasetti</p> <p>Improving the Effectivity of Dynamic Compaction Methods in Silty Sands Through Microbial Induced Desaturation (MID), Leon VanPaassen</p>		<p>Building Stiffness Changes and Response to Excavation-Induced Ground Movements, A Felipe Uribe-Henao</p> <p>Application of Particle Image Velocimetry (PIV) Method in Pipe-Soil Interaction Problems, Selcuk Bildik</p> <p>Numerical Study on the Ground Behavior with Basal Heave During Vertical Shaft Excavation in Clay, Gye-Chun Cho</p> <p>An Experimental Program Using Carbon Rod Geometry and Particle Image Velocimetry (PIV) to Investigate the Ground Response Affected by Adjacent Tunneling, Ilhan Chang</p> <p>Numerical Study of Multi-Lane Surface Loading Effects on Corrugated Steel Culverts Buried in Shallow Cover Depth, Elham Nakhostin</p> <p>Augmented, Virtual, and Mixed Reality in Practice, Travis Shoemaker</p>		<p>Panel Discussion</p> <p>The Millennium Tower case history will be described, including observed field performance that included foundation settlement and tilt, predictability of the movements, a foundation remediation program, and impact of this case history on foundation design in San Francisco.</p> <p>Ronald O. Hamburger, <i>Simpson Gumpertz & Heger</i></p> <p>Nathaniel Wagner, <i>Slate Geotechnical</i></p> <p>Joe Smith, <i>Arup</i></p>		<p>Panel Discussion</p> <p>Panelists will present the findings from recent Navigating the New Arctic projects and case studies, and discuss the broader geotechnical aspects of the Arctic and sub-Arctic landscape, how to engage communities and their perspective, and future directions and opportunities of geotechnical research and practice in the Arctic.</p> <p>Majid Ghayoomi, <i>University of New Hampshire</i></p> <p>Cassandra Rutherford, <i>Iowa State University</i></p> <p>Ming Xiao, <i>Pennsylvania State University</i></p> <p>John Thornley, <i>WSP</i></p> <p>Anna Wagner, <i>Cold Regions Research and Engineering Laboratory</i></p>	
2:30 – 4:30 p.m.	Poster Session and Happy Hour , <i>West Exhibit Hall B</i>												
5:30 – 7:00 p.m.	Awards Presentation & Karl Terzaghi Award Lecture , <i>Petree</i>												



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GeoenviromMeet 2024

Portland, Oregon, September 22-25, 2024

Geoenvironmental Impacts of Climate Change, Sustainability, and Resilience



Wednesday, March 29, 2023

8:00 – 10:00 a.m. Turkey-Syria Earthquakes Panel Discussion and Geo-PIT, <i>Petree</i>										
10:00 – 10:30 a.m. Morning Networking Break, <i>West Exhibit Hall B</i>										
10:30 a.m. – 12:00 p.m. Technical Sessions										
Track A Room 504		Track B Room 505		Track C Room 506		Track D Room 510				
Track E Room 512		Track F Room 515A		Track F Room 515B						
Slopes Moderators: Jack Montgomery and Ben Leshchinsky		Soil Properties Moderators: Cassandra Rutherford and Xiong Zhang		Soil Dynamics Moderators: Majid Manzari and Jaime Mercado		Foundations Moderators: Curt Basnett and Canan Ozudogru				
Computational Geotechnics Moderators: Alba Yerro and Masoud Nabahar		Sustainability Technical Committee Roundtable Moderator: Fariborz Tehrani		Creating a Thriving Geotech Business – Practical Ideas for Shops of All Sizes Moderator: Danny Cohen						
<p>Insights into Seismic Deformation Patterns for Shallow and Deep Sliding Masses using Finite Element Analysis, Yu-Wei Hwang</p> <p>Inverse Analysis of Cadia Tailings Dam Failure, Yaakoub Elkhamra</p> <p>Effects of Initial Consolidation on the Triggering of Static Liquefaction Considering Fabric Effects, Srinivas Vivek Bokkisa</p> <p>Validation of Analysis Using Case Histories of Japanese Levees, Yang Yang</p> <p>Improvement in Stability of a Tropical Hill Slope Via Mechanical Root Reinforcement, Ujwalkumar Patil</p> <p>Landslide Susceptibility Mapping Using Machine Learning Methods: A Case Study in Colorado Front Range, USA, Tong Qiu</p>		<p>Using Machine Learning to Predict Soil Shear Wave Velocity, Longde Jin</p> <p>Effect of Grain Size of Granular Soils on Shear Wave Velocity and Electrical Resistivity for Levee Health Monitoring, Brittany Russo</p> <p>An Evaluation of Incremental, Constant Rate of Strain, and Constant Pressure Ratio Consolidation Testing, Ryan Lavorati</p> <p>Shear and Elastic Moduli of Fine-Grained Soils: Impact of Consolidation Pressure and Plasticity Characteristics, Beena Ajmera</p> <p>Small-Strain Behavior and Stress Path Rotation Angle Effects of Hawthorn Group Sands in Central Florida, Alan J. Aparicio Ortube</p> <p>Effect of Particle Size Distribution on Monotonic Shear Strength and Stress-Dilatancy of Coarse-Grained Soils, Mandeep Singh Basson</p>		<p>Site Characterization Data for Site Response Modeling in Sacramento-San Joaquin Delta Region of California, Tristan Buckreis</p> <p>Undrained Cyclic Shear Behavior of Sensitive Saprolite Soil, Kayla Sorenson</p> <p>Shear Strain Accumulation and Stiffness Degradation in Coal Ash Under Cyclic Simple Shear Loading Conditions, Aparna Shrivastava</p> <p>Assessment of Kinematic Effects of Soil-Structure Interaction for Vertical Translational Motions at Multiple Instrumented Large and Deeply Embedded Foundations, Peiman Zogh</p> <p>Insights on the Spatial Area Influencing Seismic Site Response from 2D and 1D Ground Response Analyses at Treasure Island, Mohammad Hallal</p> <p>Modified Hyperbolic Model for Dynamic Properties of Peaty Organic Soils, Pengfei Wang</p>		<p>Prediction of Liquefaction-Induced Lateral Spreading Structural Demands on Bridge Foundation Using Deterministic and Numerical Methods, Nadarajah Ravichandran</p> <p>A p-y Q-z Method for the Analysis of Helical Anchors Under Lateral Load, Leon Cortes</p> <p>Predicting the Impacts of Extreme Hydroclimatic Events on the Behavior of Drilled Shafts, Nadarajah Ravichandran</p> <p>Load Transfer Mechanism of an Anchor Foundation System Through 3D Finite Element Modeling, Osvaldo Vitali</p> <p>Evaluation of Settlement Prediction Methods for Shallow Foundations on Cohesionless Soils, Sanjay Jha</p> <p>Seismic Bearing Capacity of an Embedded Strip Footing on Slope Using Modified Pseudo-Dynamic Method, Debarghya Chakraborty</p>	<p>Evaluation of an Experimental-Numerical Workflow for Analysis of Shear Zone Development in Clean Sands, Estefan Garcia</p> <p>Numerical Analysis of FFP Impact on Saturated Sands, Fuat Furkan Yalcin</p> <p>Comparison of Simple and Advanced Constitutive Models with Column Collapse Simulations in the Material Point Method, Joel Given</p> <p>Insights on 2D vs 3D Modelling of Strip Loading on Spatially Varying Random Soil Domain, Gyan Vikash</p> <p>3D Modeling of Pile-Supported Wharf Subjected to Liquefaction-Induced Lateral Ground Deformations, Milad Souri</p> <p>CFD-DEM Simulation of Riprap on Slopes, Mostafa Bahmani</p>		<p>Panel Discussion</p> <p>Join the ASCE Sustainability Technical Committee during a roundtable discussion designed around current practice, existing gaps, and missing design information concerning sustainability and resilience in civil engineering. In this 90-minute event, attendees will have the opportunity to join moderated, small-group discussions and influence the next steps for civil engineers in creating sustainable and resilient infrastructure.</p>	<p>Panel Discussion</p> <p>Three owners/executives from successful mega, large, and small geotech firms describe how they maintain strong businesses through contract review, risk mitigation, business planning, marketing, networking, industry involvement, association participation, agency engagement, and more.</p> <p>Panelists: Noah Smith, Tom Benson, and Yvette Wilson.</p>
12:00 – 1:00 p.m. Lunch, <i>West Exhibit Hall B</i>										
1:00 – 2:30 p.m. Ralph B. Peck Award Lecture and Geo-PIT, <i>Petree</i>										
1:00 – 6:00 p.m. Exhibitor Moveout, <i>West Exhibit Hall B</i>										
2:30 – 3:00 p.m. Closing Ceremony, <i>Petree</i>										

Plenary Sessions and Geo-PIT

Monday, March 27

8:00 - 10:00 a.m.

Plenary Session

Space Exploration at JPL: Driving Scientific Discovery and Extraordinary Benefit to Humanity
Laurie Leshin, Director, NASA Jet Propulsion Lab

Geo-PIT

Getting Art into Engineering
Jay McKelvey, Earth Engineering

E2SCALA: Building a Transnational Alliance to Reduce Seismic Risk in Latin America and the Caribbean
Ashly Cabas, North Carolina State University

5:00 - 6:30 p.m.

Geo-PIT

The Risks and Opportunities of Artificial Intelligence
Nick Machairas, Haley and Aldrich

Geotechnical Forensics: Building Your Toolbox
Taki Chrysovergis, SPC Engineering

Tuesday, March 28

8:00 - 10:00 a.m.

CEO Panel Discussion: Laying the Foundation for Critical Infrastructure
Moderator: Michael Kraman, Senior Vice President, HNTB

Discussion Focus – The session will cover planned infrastructure improvements in California. Each agency CEO will present

their focus towards building and improving infrastructure to prepare for planned growth for the next millennial, with the focus on preparing for the upcoming 2028 Olympics and other key events in Los Angeles and California.

Panelists:

Brian Kelly, CEO, California High Speed Rail
Tony Tavares, Director, Caltrans
Sharon Gookin, Deputy CEO, LA Metro
Terri Mestas, Deputy CEO, Los Angeles World Airports
Marty Adams, CEO, Los Angeles Dept of Water and Power

Geo-PIT

Mine – the – Data: Future of Geotechnical Engineering

Tugce Baser, University of Illinois at Urbana Champaign

Lifelines and Geo-Hazards

Craig Davis, Consultant

Mudpies, Miso, and Mohr-Coulomb: The Making of a Geotechnical Cook

Matt Evans, Oregon State University

Wednesday, March 29

8:00 – 10:00 a.m.

Panel Discussion: Turkey-Syria Earthquakes: A Disaster Through Interdisciplinary Lenses

Moderator: Lucky Nagarajan, Bauer Foundations Corp

Updates on the February 6, 2023 M7.8/M7.5 Kahramanmaraş earthquakes in Turkey-

Syria will be presented. GI-members - some of whom were directly affected by the tragedy – will join structural and social science experts, all ready to discuss the facts and how we can prevent such major events from becoming a catastrophe in the future.

Panelists:

Tugce Baser, University of Illinois UrbanaChampaign
Ozgun Numanoglu, Schnabel Engineering
Ece Eseller-Bayat, Istanbul Technical University
Pelin Özener, Yildiz Technical University
J. David Frost, Georgia Institute of Technology, Geotechnical Extreme Events Reconnaissance Association

N. Emel Ganapati, Florida International University

Ayse Hortacsu, Applied Technology Council, Earthquake Engineering Research Institute

Geo-PIT

Intersections: A Strategy for Increasing Seismic Infrastructure Resilience

Ken Hudnut, US Geological Survey
TBD

1:00 - 2:30 p.m.

Geo-PIT

TBD
TBD