

Technical Program

Monday, March 25, 2019

8:00 – 8:30 a.m.	Welcoming Remarks from the Honorable Edward G. Rendell , <i>Terrace Ballroom IV</i>						
8:30 – 10:00 a.m.	Geo-PIT: Powerful, Informative Talks on Geo-Topics , <i>Terrace Ballroom IV</i>						
10:00 – 10:30 a.m.	Morning Networking Break , <i>Exhibit Hall E</i>						
10:30 a.m. – 12:00 p.m.	Special Session: History of Case Histories in Geotechnical Engineering; Legacy of Dr. Shamsher Prakash , <i>Terrace Ballroom III</i>						
10:30 a.m. – 12:00 p.m.	Panel Session: Deep Foundations in Urban Environments , <i>Room 126A</i>						
10:30 a.m. – 12:00 p.m.	Technical Sessions						
Track A Room 122A	Track B Room 125	Track C Room 123	Track D Room 124	Track E Room 121B	Track F Room 120C	Track G Room 121A	
Shallow Foundations Moderators: Xiong Zhang, A.M.ASCE, Hosam Salman, P.E., FASCE	Embankments, Dams, and Slopes: Dams and Levees Moderators: Ben A. Leshchinsky, A.M.ASCE, Michael R. Simac, P.E., M.ASCE	Earthquake Engineering and Soil Dynamics: Soil-Structure Interaction Moderators: Shideh Dashti, Ph.D., A.M.ASCE, Deepankar Choudhury, Ph.D., M.ASCE	Soil Improvement: Case Histories Moderators: Michael P. McGuire, Ph.D., P.E., M.ASCE, Brian C. Metcalfe, Ph.D., P.E., M.ASCE	Rock Mechanics Moderators: Joseph F. Labuz, Ph.D., P.E., FASCE, Martin Woodard, Ph.D., P.G., P.E.	Geosynthetics Moderators: Marco Isola, P.E., M.ASCE, Melissa S. Beauregard EIT, A.M.ASCE	Engineering Geology and Site Characterization: Part I Moderators: David A. Saffner, Ph.D., A.M.ASCE, Ara G. Mouradian, P.E., M.ASCE	
Comparing Direct Cone Penetration Testing Foundation Designs and Traditional Foundation Designs , Ryan Dagger S.M.ASCE, <i>University of Minnesota Duluth</i> ; David Dasenbrock, P.E., FASCE, <i>Minnesota DoT</i> ; Paul Mayne, Ph.D., P.E., M.ASCE, <i>Georgia Institute of Technology</i> ; David Saffner, A.M.ASCE, <i>University of Minnesota Duluth</i> Analysis of Differential Settlement of Circular Tank Foundations on Multilayered Soil , Suranga Gunerathne, Ph.D., <i>East Carolina University</i> ; Hoyoung Seo, Ph.D., P.E., <i>Texas Tech University</i> ; William Lawson, Ph.D., P.E., <i>Texas Tech University</i> ; Priyantha Jayawickrama, Ph.D., <i>Texas Tech University</i>	Capacity Restoration and Slope Stabilization of the Gull Island Confined Disposal Facility , Tse-Wei 'Jerry' Chen, P.E., M.ASCE, <i>WSP USA Inc.</i> ; Ragui Wilson-Fahmy, Ph.D., P.E., M.ASCE, <i>WSP USA Inc.</i> ; Matthew Lunemann, <i>WSP USA Inc.</i> ; Scott Douglass, <i>NJDOT</i> Effects of Load History on Seepage-Induced Deformation and Associated Performance in Terms of Probability of Exceeding Limit States - Case Study of Princeville, Levee Rowshon Jadid MS , S.M.ASCE, <i>North Carolina State University</i> ; Brina Montoya, Ph.D., <i>North Carolina State University</i> ; Victoria Bennett, Ph.D., <i>Rensselaer Polytechnic Institute</i> ; Mo Gabr, Ph.D., FASCE, <i>North Carolina State University</i>	Hazard-Resistant Steel Pipeline Response to Large Fault Rupture , Brad Wham, Ph.D., A.M.ASCE, <i>University of Colorado Boulder</i> ; Blake Berger, <i>Cornell University</i> ; Thomas O'Rourke, Ph.D., Dist.M.ASCE, <i>Cornell University</i> Large Scale Liquefaction-Induced Lateral Spreading Shake Table Testing at the University of California San Diego , Ahmed Ebeido M.S., S.M.ASCE, <i>University of California, San Diego</i> ; Ahmed Elgamal, Ph.D., M.ASCE, <i>University of California, San Diego</i> ; Muhammad Zayed, M.S., S.M.ASCE, <i>University of California, San Diego</i>	Rockin' the Foundations at the Hard Rock Casino , Jeffrey Hill, P.E., M.ASCE, <i>Hayward Baker, Inc.</i> ; Nicolas Syriopoulos M.ASCE, <i>Hayward Baker, Inc.</i> ; Jeremiah Filjones, A.M.ASCE, <i>Hayward Baker, Inc.</i> ; Andres Baquerizo, P.E., <i>HJ Foundation, Inc.</i> ; Dustin Walkenhorst, P.E., A.M.ASCE, <i>Hayward Baker, Inc.</i> Decades of Engineering Experiences with Sinkholes , M. Ayub Iqbal, Ph.D., P.E., <i>Applied Geoscience & Engineering, Inc.</i>	Stability Assessment of Large Caverns in Horizontally Bedded Strata Considering Time-Dependent Response , Mohammad Moridzadeh, Ph.D. Candidate, S.M.ASCE, <i>Stantec</i> ; Mohammad Djavid, Ph.D., P.E., <i>Stantec</i> ; Barry Doyle, P.E., <i>Stantec</i> Rock Slope Remediation at the Penobscot Narrows Bridge , Bryan Steinert, P.E., <i>Haley & Aldrich, Inc.</i> ; Laura Krusinski, P.E., <i>MaineDoT</i> ; Amber Granger, P.G., <i>Haley & Aldrich, Inc.</i> ; Wayne Chadbourne, P.G., <i>Haley & Aldrich, Inc.</i>	Mechanical Properties of Recycled Concrete Aggregates and Recycled Asphalt Pavements Reinforced with Geosynthetics , Ali Soleimanbeigi, Ph.D., P.E., <i>University of Wisconsin-Madison</i> ; William Likos, Ph.D., <i>University of Wisconsin-Madison</i> Utilization of Pond Ash as Structural Fill Material in Reinforced Soil Structures , Aali Pant, M.Tech, <i>Indian Institute of Technology Delhi</i> ; Manoj Datta, Ph.D., <i>Indian Institute of Technology Delhi</i> ; Gunturi Ramana, Ph.D., <i>Indian Institute of Technology Delhi</i> ; Abinash Mahanta M.Tech, <i>Indian Institute of Technology Delhi</i>	Developing a Calibration Model for Moisture Content Determination Utilizing a Hybrid Nuclear-Electric Gauge , William Baker E.I., S.M.ASCE, <i>University of Delaware</i> ; Christopher Meehan, Ph.D., P.E., FASCE, <i>University of Delaware</i> Uppermost Subaqueous Soil Variability in Front of the Situk River Inlet, Alaska, from Portable Free Fall Pentrometer , Dennis Kiptoo Msc, <i>Virginia Tech.</i> ; Nina Stark, Ph.D., <i>Virginia Tech.</i> ; Ali Albatal, Ph.D., <i>Virginia Tech.</i> ; Cagdas Bilici, Ph.D., <i>Virginia Tech</i>	

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<p>Inspection Protocol for Investigating Structures Subjected to Distress Due to Expansive Soils, Muawia Dafalla, Ph.D., A.M.ASCE, <i>King Saud University</i>; Mosleh Al-Shamrani, Ph.D., <i>King Saud University</i></p> <p>Comparison of Estimated Soil Settlements Using Strain-Dependent and High-Strain Elastic Moduli, John Davie, Ph.D., P.E., CEng, M.ASCE; Tyler Liao; Michael Lewis; Jose Clemente, <i>Betchel</i></p> <p>Conical Load Test-Induced Settlement in Central Florida Soils: Class A Prediction of Field Performance with Advanced Soil Models, A. Felipe Uribe-Henoa, <i>University of Central Florida</i>; Luis Arboleda-Monsalve, Ph.D., <i>University of Central Florida</i>; Sergio Savater, <i>University of Central Florida</i>; Manoj Chopra, Ph.D., P.E., <i>University of Central Florida</i>; Larry Jones, <i>Florida DOT</i></p> <p>A New Analysis of Circular Raft on Layered Elastic Soil, Hesham Elhuni, <i>University of Waterloo</i>; Bipin Gupta, <i>University of Waterloo</i>; Dipanjan Basu, Ph.D., C. Eng, M.ASCE, <i>University of Waterloo</i></p>	<p>Multi-Decadal Earth Dam Deformation Monitoring using Airborne LiDAR and Structure from Motion at Lago Guajataca, Puerto Rico, Andres Villarreal Arango, <i>University of Puerto Rico at Mayaguez</i>; Alesandra Morales-Velez, Ph.D., I.T., <i>University of Puerto Rico at Mayaguez</i>; Stephen Hughes, Ph.D., <i>University of Puerto Rico at Mayaguez</i></p> <p>Case History: Rapid Drawdown Analysis of Village Creek Plant Levee, Daniel VandenBerge, Ph.D., P.E., <i>Tennessee Tech</i>; Garry Gregory, Ph.D., P.E., D.GE., <i>Gregory Geotechnical</i>; Prince Turkson, <i>Tennessee Tech</i></p> <p>Brownsville Levee Instability, Lucas Walshire, P.E., <i>U.S. Army Corps of Engineers</i>; Joseph Dunbar, Ph.D., R.P.G., <i>U.S. Army Corps of Engineers</i>; Isaac Stephens, P.E., <i>U.S. Army Corps of Engineers</i>; Maureen Corcoran, Ph.D., R.P.G., <i>U.S. Army Corps of Engineers</i></p> <p>Deformation Analysis of Ritschard Dam: A Case Study of Rockfill Compression Induced Movements, Masood Kafash, Ph.D., P.E., <i>AECOM</i>; Tiffany Adams, Ph.D., P.E., <i>AECOM</i>; Richard Davidson, P.E., <i>AECOM</i>; Ray Tenney, P.E., <i>Colorado River Water Conservation District</i>; Don Meyer, <i>Colorado River Water Conservation District</i></p>	<p>Centrifuge Investigation of the Effects of Liquefiable Soil Interlayering and Structural Strength on the Seismic Performance of Soil-Structure Systems, Balaji Paramasivam, <i>University of Colorado Boulder</i>; Shideh Dashti, <i>University of Colorado Boulder</i>; Abbie Liel, <i>University of Colorado Boulder</i></p> <p>Seismic Performance of Buildings at CentrePort Wellington, Jonathan Bray, Ph.D., P.E., NAE, F.ASCE, <i>Univ. of California, Berkeley</i>; Misko Cubrinovski, Ph.D., <i>University of Canterbury, Christchurch, NZ</i>; Christopher de la Torre, P.E., <i>University of Canterbury, Christchurch, NZ</i>; Ribu Dhakal, <i>University of Canterbury, Christchurch, NZ</i></p> <p>Numerical Simulation of Dynamic Centrifuge Tests on Concrete Faced Rockfill Dam, Muhsin Acar S.M.ASCE, <i>University of Illinois at Urbana-Champaign</i>; Ozgun Numanoglu S.M.ASCE, <i>University of Illinois at Urbana-Champaign</i>; Youssef Hashash, Ph.D., P.E., F.ASCE, <i>University of Illinois at Urbana-Champaign</i></p> <p>Assessing the Significance of Dynamic Soil-Structure Interaction in Bridges by Using Large-Amplitude Mobile Shakers, Sharef Farrag MSc, M.ASCE, <i>Rutgers University</i>; Nenad Gugucnski, <i>Rutgers University</i>; Brady Cox, <i>The University of Texas, Austin</i>; Farryuh Meng, <i>The University of Texas, Austin</i>; Franklin Moon, <i>Rutgers University</i>; John Devitis, Ph.D., <i>Rutgers University</i></p>	<p>A Study on the Quality of Improved Bodies Constructed by Jet Grouting Utilizing a Cutting Condition Monitoring System, Takasi Shinsaka, Dr.Eng, P.E.Jp, Sen. Pro.C.E., <i>Sanshin Corporation</i>; Junnichi Yamazaki, P.E.Jp, <i>Sanshin Corporation</i>; Yasuharu Nakanishi, <i>N.I.T. Inc.</i>; Kazuhito Komiya, <i>Chiba Institute of Technology</i></p> <p>Sand and PV Drains – Historical Developments, Some Early Research and Case Histories, Robert Holtz, Ph.D., P.E., D. GE., Dist. M.ASCE, <i>University of Washington</i></p> <p>Rigid Inclusions Ground Improvement for A New Energy Facility: Design, Construction and Full-Scale Embankment Load Testing and Results, David Mazzei, P.E., <i>Hayward Baker, Inc.</i>; Ken Kniss, P.E., <i>Hayward Baker, Inc.</i>; Fathey Elsaid, Ph.D., P.E., <i>Mueser Rutledge Consulting Engineers</i>; Yan Zhang, Ph.D., <i>Hayward Baker, Inc.</i></p> <p>Case Study: Design, Installation and Analysis of Column Supported Embankment Systems at I-295/I-76/Route 42 Direct Connection Contracts 1 & 2, Nina Carney, P.E., M.ASCE, <i>Menard USA</i>; Sarah Ramp, P.E., M.ASCE, DGI, <i>Menard USA</i>; Dylan Davis, A.M.ASCE, DGI, <i>Menard USA</i></p>	<p>A Non-Stationary Power Law Model to Predict the Secondary Creep Rate of Rocks, Ruofan Wang M.Eng., <i>École Polytechnique de Montréal</i>; Li Li, Ph.D., <i>École Polytechnique de Montréal</i></p> <p>Analysis and Comparison of Measured Static and Dynamic Moduli of a Dolostone Specimen, KC Bijay, M.S, S.M.ASCE, <i>University of Vermont</i>; Maziar Foroutan, M.S, S.M.ASCE, <i>University of Vermont</i>; Ehsan Ghazanfari, Ph.D., M.ASCE, <i>University of Vermont</i></p> <p>Numerical Study on Thermally-Induced Displacement Ratcheting of a Thin Rock Slab, Sihyun Kim, Ph.D., <i>Bradley University</i>; Ethan Druszkowski, <i>Bradley University</i>; Jingtao Zhang, <i>University of Nebraska-Lincoln</i>; Seunghee Kim, Ph.D., <i>University of Nebraska-Lincoln</i></p> <p>Thermal Effects on Reservoir-Sealing Rock Interactions during Injection Operations, Xinle Zhai, <i>University at Buffalo</i>; Kamelia Montared, Ph.D., <i>University at Buffalo</i></p>	<p>Numerical Study of the Behavior of a Fully Encased Stone Column Bearing on a Non-Rigid Layer, Ali Al Saadi, <i>University of Delaware</i>; Christopher Meehan, <i>University of Delaware</i>; Victor Kaliakin, <i>University of Delaware</i></p> <p>Case Histories of Multi-Layer Interface Tests for Composite Liners and Comparison to Single Interface Tests, Thevachandran Shenthana, Ph.D., P.E., G.E., <i>Advanced Earth Sciences, Inc.</i>; Kris Khilnani, P.E., G.E., <i>Advanced Earth Sciences, Inc.</i>; Timothy Stark, Ph.D., P.E., D.GE, <i>University of Illinois at Urbana-Champaign</i></p> <p>Evaluation of GCL and Geomembrane Characteristics on Failure Modes and Critical Shear Strength of GCL/Geomembrane Composite System, Shahin Ghazizadeh, <i>Colorado State University</i>; Christopher Bareither, Ph.D., P.E., <i>Colorado State University</i></p> <p>Lessons Learned Regarding Exit Strategies from Geosynthetic Drainage Composites, Robert Koerner, Ph.D., P.E., <i>Drexel University</i></p>	<p>On-Site Particle Size Distribution by FieldSed, Andrea Ventola S.M.ASCE, <i>University of Michigan</i>; Roman Hryciw, Ph.D., M.ASCE, <i>University of Michigan</i></p> <p>Site Variability Characterization Using Cone Penetration Test Data, Eshan Ganju, S.M.ASCE, <i>Purdue University</i>; Rodrigo Salgado, Ph.D., P.E., D.GE., F.ASCE, <i>Purdue University</i>; Monica Prezzi, <i>Purdue University</i></p> <p>Comparison of Dispersion-Based Analysis of Surface Waves and Full Waveform Inversion in Characterizing Unknown Foundations, Siavash Mahvelati, <i>Temple University</i>; Joseph Coe, Ph.D., <i>Temple University</i></p> <p>Interpretation of Distribution of Ancient Rivers in Singapore using 3D Geological Model, Xiaohua Pan, Ph.D., <i>Nanyang Technological University</i>; Zarli Aung, <i>Nanyang Technological University</i>; Aung Nyo, <i>Nanyang Technological University</i>; Kiefer Chiam, <i>Building and Construction Authority, Singapore</i>; Defu Wu, <i>Building and Construction Authority, Singapore</i>; Jian Chu, Ph.D., <i>Nanyang Technological University</i></p>

10:00 a.m. – 3:00 p.m. Student Competitions, Exhibit Hall E							
12:00 – 1:30 p.m. Lunch, Exhibit Hall E							
1:30 – 3:00 p.m. Panel Session: MSE Walls – Milestone Case Histories that Changed the Profession, Room 126A							
1:30 – 3:00 p.m. Special Session: A 50-Year Tribute to Ralph Peck and the Observational Method, Part I, Room 120B							
1:30 – 3:00 p.m. Technical Sessions							
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Deep Foundations: Piles Moderators: Sarah L. Gassman, P.E., M.ASCE, Sam Sternberg, III, P.E., D.GE, M.ASCE	Embankments, Dams, and Slopes: Embankment and Slope Stability Moderators: Bernardo A. Castellanos, A.M.ASCE, Peter A. Narsavage, P.E., M.ASCE	Earthquake Engineering and Soil Dynamics: Numerical Modeling Moderators: Ashly Cabas Mijares, Ph.D., A.M.ASCE, Zia Zafir G.E., P.E., M.ASCE	Soil Improvement: Biopolymers Moderators: Michael G. Gomez, A.M.ASCE, Maria Chrysochoou A.M.ASCE	Soil Properties and Modeling Moderators: Michelle L. Bernhardt, Ph.D., A.M.ASCE, Inthuorn Sasanakul, P.E., M.ASCE	Sustainability In Geotechnical Engineering Moderators: Boo Hyun Nam, Ph.D., A.M.ASCE, Krishna R. Reddy, Ph.D., P.E., D.GE, ENV SP, F.ASCE	Engineering Geology and Site Characterization: Part II Moderators: Paola Bandini, Ph.D., P.E., M.ASCE, Eric S. Backlund, P.E., M.ASCE	Data and Software for Geotechnical Engineering Moderators: Robert C. Bachus, P.E., D.GE, M.ASCE, Jan Cermak, P.E., M.ASCE
A Continuum Based Nonlinear Analysis of Laterally Loaded Piles, Bipin Gupta, Ph.D. Candidate, <i>University of Waterloo</i> ; Dipanjan Basu, Ph.D., CEng., M.ASCE, <i>University of Waterloo</i> Coupled Numerical Analysis of Variations in the Capacity of an Energy Pile in Clay Soil, Arvin Farid, Ph.D., P.E., M.ASCE, <i>Boise State University</i> ; Daniel Zimmerman, <i>Boise State University</i> Pile Design for Use in High-Tension Cable Median Barriers, Mojdeh Asadollahi Pajouh, Ph.D., P.E., M.ASCE, <i>University of Nevada Las Vegas</i> ; Karla Lechtenberg, <i>University of Nebraska-Lincoln</i> ; Robert Bielenberg, <i>University of Nebraska-Lincoln</i> ; Ronald Faller, <i>University of Nebraska-Lincoln</i>	Primary and Post-Surcharge Secondary Settlements of a Highway Embankment Constructed over Highly Organic Soils: A Case History, Liang Chern Chow, P.E., M.ASCE, <i>American Engineering Testing, Inc.</i> ; Joseph Bentler, P.E., M.ASCE, <i>American Engineering Testing, Inc.</i> ; Richard Lamb, P.E., M.ASCE, <i>MinnesotaDOT</i> Surcharge Embankment on Marine Clayey Silt Case Study and Lessons Learned, Steven Halcomb, P.E., G.E., M.ASCE, <i>CRW, Engineering Group LLC</i> ; Sean Sjostedt, P.E., M.ASCE, <i>PND Engineers, Inc.</i> Application of Instrumentation Monitoring and Observational Methods in Construction of a Large Embankment on Soft Ground, Jiaer Wu, Ph.D., P.E., G.E., M.ASCE, <i>China Harbour Engineering Company USA Ltd</i>	Soil-Structure Interaction Analysis of a Large Diameter Tank on Piled Foundations in Liquefiable Soil, Frederick F Tajirian, Ph.D., P.E., F.ASCE, <i>Chevron Energy Technology Company</i> ; Mansour Tabatabaie, Ph.D., P.E., M.ASCE, <i>MTR and Associates</i> ; Pramod Rao, Ph.D., P.E., M.ASCE, <i>Chevron Energy Technology Company</i> Validation of a Bounding Surface Plasticity Model against the Experimental Response of (Bio-) Cemented Sands, Maya El Kortbawi, <i>University of California, Davis</i> ; Katerina Ziotopoulou, <i>University of California, Davis</i> ; Michael G. Gomez, <i>University of Washington, Seattle</i> ; Minyong Lee, <i>University of Washington, Seattle</i> Impact of Hysteretic Damping on Nonlinear Dynamic Soil-Underground Structure-Structure Interaction Analyses, Yuamar Imarrazan Basarah, S.M.ASCE, <i>University of Illinois at Urbana-Champaign</i> ; Ozgun A. Numanoglu S.M.ASCE, <i>University of Illinois at Urbana-Champaign</i> ; Youssef M.A. Hashash, Ph.D., P.E., F.ASCE, <i>University of Illinois at Urbana-Champaign</i> ; Shideh Dashit, Ph.D., M.ASCE, <i>University of Colorado Boulder</i>	Filler-Stabilized Xanthan Gum for Soil Improvement, Justin Antonette S.M.ASCE, <i>Stony Brook University</i> ; Karam Jaradat, <i>Stony Brook University</i> ; Johnny Donza, <i>Stony Brook University</i> ; Zubin Darbari, <i>Stony Brook University</i> ; Sherif Abdelaziz, Ph.D., <i>Stony Brook University</i> Case Study: Use of Geopolymers to Evaluate the Swell-Shrink Behavior of Native Clay in North Texas, Rinu Samuel, EIT, S.M.ASCE, <i>University of Texas at Arlington</i> ; Oscar Huang, <i>Texas A&M</i> ; Aritra Banerjee, <i>University of Texas at Arlington</i> ; Jasaswee Das, <i>University of Texas at Arlington</i> ; Anand Puppala, <i>University of Texas at Arlington</i> ; Miladin Radovic, Ph.D., <i>Texas A&M University</i> Shear behavior of Hydrogel-Type Biopolymer-Treated Coarse Soils Evaluated by Laboratory Tri-Axial Test, Sojeong Lee, M.S., <i>University of New South Wales (UNSW)</i> ; Jooyoung Im, <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Gye-Chun Cho, Ph.D., <i>Korea Advanced Institute of Science and Technology (KAIST)</i> ; Ilhan Chang, Ph.D., A.M.ASCE, <i>University of New South Wales (UNSW)</i>	Influence of Temperature Variation on Complex-Impedance Measuring Instrument Test Results, Jason S. Hertz, P.E., M.ASCE, <i>Skanska</i> ; Christopher L. Meehan, Ph.D., P.E., F.ASCE, <i>University of Delaware</i> Electrical Resistivity Measurements in Advanced Triaxial Tests, Wing Shun Kwan, Ph.D., P.E., M.ASCE, <i>California State University, Los Angeles</i> ; Mark Tufenkjian, <i>California State University, Los Angeles</i> ; James Tuazon, <i>California State University, Los Angeles</i> ; Niccolas Peralta, <i>California State University, Los Angeles</i> ; Kenny Khov, <i>California State University, Los Angeles</i> ; Freddy Garcia, <i>California State University, Los Angeles</i> Frequency Effects on Low-Strain Shear Modulus and Damping for Natural Clays and Silts, Pitak Ruttithivaphanich, <i>University of South Carolina</i> ; Inthuorn Sasanakul, Ph.D., PE, M.ASCE, <i>University of South Carolina</i>	Role of Water Absorption on Rainsplash Erosion Performance of Natural Fiber RECPs, Jennifer L Smith, Ph.D., <i>John P. Stopen Engineering Partnership</i> ; Shobha K. Bhatia, Ph.D., <i>Syracuse University</i> Innovative and Sustainable Uses of Volcanic Ash as a Natural Pozzolan for Dust Abatement and Unpaved Roadway Improvement, Matthew Sleep, Ph.D., <i>Oregon Institute of Technology</i> ; Morgan Masley, <i>Oregon Institute of Technology</i> Application of Triple Bottom Line Sustainability Framework to Select Remediation Method at Industrial Contaminated Site, Krishna R Reddy Ph.D., P.E., D.GE, F.ASCE, ENV SP, <i>University of Illinois at Chicago</i> ; Girish Kumar, S.M.ASCE, <i>University of Illinois at Chicago</i>	Karst Topography Risks – Investigation, Design, and Construction with Case Studies, Jeremy J. Brown, P.E., M.ASCE, <i>Schnabel Engineering</i> ; Mia Painter P.G., <i>Schnabel Engineering</i> ; B. Philip Shull, P.E., <i>Schnabel Engineering</i> Shear Behavior of Weathered Compacted Shales, Lindsey Sebastian Bryson, Ph.D., P.E., M.ASCE, <i>University of Kentucky</i> ; Faisal S. Ahmed, M.ASCE, <i>University of Kentucky</i> Sinkhole Stability Charts in Central Florida Soils, Moataz Soliman, <i>University of Central Florida</i> ; Luis Arboleda, <i>University of Central Florida</i> ; David Horhota, <i>Florida Department of Transportation</i> ; Boo Hyun Nam, <i>University of Central Florida</i>	Case Histories in the Evolution of Geotechnical Data and How it is Changing Our Industry, Allen Cadden, P.E., D.GE, F.ASCE, <i>Schnabel Engineering, Inc.</i> ; Johanna Mikitka Simon, P.E., M.ASCE <i>Schnabel Engineering, Inc.</i> ; Todd Roberts P.G.; <i>Sensometrics</i> The Value of Data – The Qatar Geological Mapping Project, Joseph T. Krupansky, P.G., <i>Gannett Fleming Inc.</i> ; Michael A. Knight, P.G., <i>Gannett Fleming Inc.</i> ; Randall C. Orndrff, <i>U.S. Geological Survey</i> ; Khaled M. Al-Akhras, Ph.D., P.E., <i>Ministry of Municipality & Environment</i> ; Ara G. Mouradian, P.E., <i>Gannett Fleming Inc.</i> ; Ali F. Saleh, <i>Ministry of Municipality & Environment</i> GIS-Based Geotechnical Engineering Data Management: A Case Study at the Alabama DOT, Andrew J. Graettinger, Ph.D., M.ASCE, <i>The University of Alabama</i> ; Kaye Chancellor Davis, P.E. M.ASCE, <i>Alabama Department of Transportation</i> ; Randy K. Smith, Ph.D., <i>The University of Alabama</i> ; Rachel Robinson, <i>The University of Alabama</i>

1:30 – 3:00 p.m. Technical Sessions							
Track A Room 122A	Track B Room 125	Track C Room 123	Track D Room 124	Track E Room 121B	Track F Room 120C	Track G Room 121A	Track H Room 121C
<p>Deep Foundations: Piles Moderators: Sarah L. Gassman, P.E., M.ASCE, Sam Sternberg, III, P.E., D.GE, M.ASCE</p>	<p>Embankments, Dams, and Slopes: Embankment and Slope Stability Moderators: Bernardo A. Castellanos, A.M.ASCE, Peter A. Narsavage, P.E., M.ASCE</p>	<p>Earthquake Engineering and Soil Dynamics: Numerical Modeling Moderators: Ashly Cabas Mijares, Ph.D., A.M.ASCE, Zia Zafir G.E., P.E., M.ASCE</p>	<p>Soil Improvement: Biopolymers Moderators: Michael G. Gomez, A.M.ASCE, Maria Chrysochoou A.M.ASCE</p>	<p>Soil Properties and Modeling Moderators: Michelle L. Bernhardt, Ph.D., A.M.ASCE, Inthuorn Sasanakul, P.E., M.ASCE</p>	<p>Sustainability In Geotechnical Engineering Moderators: Boo Hyun Nam, Ph.D., A.M.ASCE, Krishna R. Reddy, Ph.D., P.E., D.GE, ENV SP, FASCE</p>	<p>Engineering Geology and Site Characterization: Part II Moderators: Paola Bandini, Ph.D., P.E., M.ASCE, Eric S. Backlund, P.E., M.ASCE</p>	<p>Data and Software for Geotechnical Engineering Moderators: Robert C. Bachus, P.E., D.GE, M.ASCE, Jan Cermak, P.E., M.ASCE</p>
<p>Comparison of Settlement Response of Piled-Raft Foundation Subjected to Combined Loads Computed from Finite Element and Analytical Models, Nadarajah Ravichandran, Ph.D., Clemson University; Shweta Shrestha, Clemson University</p> <p>The Reaction of CPT to Excavation Unloading and its Effect on Laterally Loaded Piles; Jongjiang Li, Southeast University of China; The University of Western Australia; Songyu Liu, Ph.D., M.ASCE, Southeast University; Liyuan Tong, Ph.D., Southeast University; Tao Yang, Southeast University</p> <p>Load Transfer Mechanism of Micropiles in Weathered Rock, Ed 'Audai' Theinat E.I.T, M.ASCE, Purdue University; Ronaldo Luna, Ph.D., P.E., FASCE, Saint Louis University</p>	<p>Unmanned Aircraft System (UAS) Photogrammetry for Tracking Streambank Erosion and Geomorphic Change Along a Protected River Corridor, Scott D Hamshaw, Ph.D., P.E., University of Vermont; Kristen I Underwood, University of Vermont; Donna M. Rizzo, Ph.D., University of Vermont; Jarlath O'Neil-Dunne, University of Vermont; Mandar M. Dewoolkar, Ph.D., P.E., University of Vermont</p> <p>Rupture Failure Modes in Analyses of Stability of Soil and Rock Slopes, Dowan Park M.Sc., University of Michigan; Radoslaw L. Michalowski, Ph.D., FASCE, University of Michigan</p> <p>Load Displacement Compatibility Method for Design of Column-Supported Embankments: Comparison to Case Histories, Joel A. Sloan Ph.D., P.E., M.ASCE, U.S. Air Force Academy; Michael P. McGuire Ph.D., P.E., M.ASCE, Lafayette College; Aaron P. Gallant Ph.D, P.E., M.ASCE, University of Maine</p>	<p>An Experimental and Numerical Study of Prefabricated Vertical Drains as a Liquefaction Countermeasure for Mat-Founded Structures, Jenny Ramirez, University of Colorado Boulder; Shideh Dasthi, Ph.D., University of Colorado Boulder; Abbie Liel, University of Colorado Boulder; Balaji Paramasivam, University of Colorado Boulder</p> <p>Cyclic Behavior and Liquefaction Resistance of Fine Coal Refuse – Experimental and Numerical Modeling; Sajjad Salam, Pennsylvania State University; Ming Xiao, Ph.D., P.E., Pennsylvania State University; Arash Khosravifar, Ph.D., P.E., Portland State University; Jintai Wang, Pennsylvania State University</p> <p>Propagation of Seismic Settlements at Depth to the Ground Surface – A Case History, Jose L.M. Clemente, Ph.D., P.E., D.GE, FASCE, Bechtel National, Security & Environmental; Michael R. Lewis, P.E., FASCE, Bechtel Infrastructure; Tainfei "Tyler" Liao, Ph.D., P.E., M.ASCE, Bechtel NS&E; Michael D. McHood, P.E., M.ASCE, Bechtel NS&E; Michael Boone, P.E., M.ASCE, Black & Veatch</p>	<p>Reducing Soil Permeability Using In-Situ Biofilm-Forming Bacteria: Overcoming Testing Apparatus Challenges, Mary J.S. Roth, Ph.D., P.E., M.ASCE, Lafayette College; Laurie Caslake, Ph.D., Lafayette College</p> <p>A Study on Thermal Consolidation of Fine Grained Soils Using Modified Consolidometer, Mohammad Jashaghani S.M.ASCE, University of Louisville; Omid Ghasemi-Fare, A.M.ASCE, University of Louisville</p> <p>Effect of Molarity of Geopolymers on CKD and UGCC Admixed BC Soil, Prathap Kumar M T, Ph.D., RNS Institute of Technology; Sapna Devendra M.E., Ghousia College of Engineering</p>	<p>Visualizing the Role of Particle Shape on 2D Inter-Particle Fluid Flow Using a Transparent Soil, Surrogate, Linzhu (Lynn) Li M.Sc., New York University; Mehdi Ormidvar, Ph.D., A.M.ASCE, Manhattan College; Stephan Bless Sc.D., F.APS, E.IBS, NYU; Maqeed Iskander, Ph.D., P.E., FASCE, New York University</p> <p>Impact of Biology on Particle Crushing in Offshore Calcareous Sediments, Ryan D Beemer, Ph.D., A.M.ASCE, University of Western Australia; Aleksey Sadekov, Ph.D., University of Western Australia; Ulysse Lebrech, Norwegian Geotechnical Institute – Perth; Jeremy Shaw, Ph.D., University of Western Australia; Alexandre Bandini-Maeder, Ph.D., University of Western Australia; Mark J Cassidy D.Phil., The University of Melbourne</p> <p>Accounting for Strain Rate Dependent Behavior during Consolidation of Saturated Clay, Ross W. Boulanger, Ph.D., P.E., FASCE, University of California, Davis; Scott J. Brandenburg, Ph.D., P.E., M.ASCE, University of California at Los Angeles</p>	<p>Performance of a Field-Scale Shallow Horizontal Thermal Energy Storage System, Tugce Baser, Ph.D., University of Alberta; Candice Hanna, University of California San Diego; John S McCartney, Ph.D., P.E., M.ASCE, University of California San Diego</p> <p>Use of Repurposed Fibers to Decrease Hydraulic Conductivity without Compromising Load Restrictions in Urban Roof Farms, Ivan L. Guzman, Ph.D., M.B.A., P.E., M.ASCE, New York City College of Technology; Sandra M. Torres M.ASCE, New York City College of Technology</p> <p>Geotechnical Resilience Engineering Guidelines for Upland Confined Disposal Facilities: A Case Study Approach, Matthew M Lunemann, P.E., ENV. S.P., M.ASCE, WSP USA; W. Scott Douglas, New Jersey Department of Transportation</p>	<p>Rockfall in New Jersey: A Proactive and Collaborative Approach, Amber B. Granger P.G., Haley & Aldrich; Edward M. Zamiskie, P.E., Haley & Aldrich; Scott J. Deeck, P.E., New Jersey Department of Transportation; John P. Jamerson, New Jersey Department of Transportation</p> <p>Mill Creek: Efficient Characterization and Development of 200-Acre Site Underlain by Karst Geology, Ryan T. Walters, P.E., Maser Consulting P.A.; Alexander Ross P.G., Maser Consulting P.A.; Philip E. Gouffreau, P.E., M.ASCE, Maser Consulting P.A.</p>	<p>Slope Stability Monitoring and Early-Warning System for Kariba Dam South Bank Slope Prospect, Kudakwashe Motsi, MSc (candidate), University of Cape Town; Denis Kalumba, University of Cape Town; Lunga Mapekula, University of Cape Town; Charles Chibvura, University of Southern Queensland</p> <p>Preliminary Results from a Continuous Compaction Control Data Set Recorded During Active Earthwork Construction, William J. Baker, III E.I., S.M.ASCE, University of Delaware; Christopher L. Meehan, Ph.D., P.E., FASCE, University of Delaware</p> <p>Distributed Fiber Optic Sensing of Land Deformation: Methods and Case Studies, Cheng-Cheng Zhang, University of California, Berkeley; Bin Shi, Ph.D., Nanjing University; Kenichi Soga, Ph.D., M.ASCE, University of California, Berkeley</p>
3:00 – 3:30 p.m. Afternoon Networking Break, Exhibit Hall E							
3:30 – 5:30 p.m. Special Session: A 50-Year Tribute to Ralph Peck and the Observational Method, Part II, Room 120B							
3:30 – 5:30 p.m. Poster Session I, Exhibit Hall E (see pages 16-18)							
6:00 – 7:30 p.m. Organizational Member Executive Leadership Dinner and Workshop (Invitation Only), Loews Philadelphia Hotel – Lescaze Room, 33rd Floor							
7:45 – 8:45 p.m. G-I Student Program: Organizational Members and Student Travel Grant Winners Job Fair (Invitation Only), Room 122B							
8:45 – 9:45 p.m. G-I Student Program: Organizational Member and Student Reception, Room 122B							

Monday Poster Session

3:30 – 5:30 p.m., Exhibit Hall E

Deep Foundations: Piles

PB02 | Experimental and Numerical Analysis of Bearing Capacity of Large Diameter Open-Ended Pipe Piles, Yuan Guo, Ph.D., *Case Western Reserve University*; Jiale Li, Ph.D., *Case Western Reserve University*; Xiong Yu, Ph.D., P.E., FASCE, *Case Western Reserve University*

PB03 | Geotechnical Centrifuge Experiments on Bearing Capacity of Pipe Piles, Jiale Li, Ph.D., *Hebei University of Technology*; Yuan Guo, Ph.D., *Case Western Reserve University*; Xiong Yu, Ph.D., P.E., FASCE, *Case Western Reserve University*

PB04 | Analysis & Assessment of the Exiting Deep Foundation and Design of Supplemental Deep Foundation for Dolphin Tower, Said Irvani, Ph.D., P.E., FASCE, *Irvani P. A.*

PB05 | Performance of Osterberg Cell (O-cell) Load Tests on High-Capacity Production Drilled Shafts at the Kosciuszko Bridge, Matteo Ferrucci, P.E., *WSP USA*; Daniela Zellers, *WSP USA*; Sherif Hanna, *WSP USA*; Bob Adams, *NYSDOT*; Jeff Moryl, *NYSDOT*

Deep Foundations: Drilled Shafts

PB06 | Sinkhole Development and Propagation During Drilled Shaft Construction in West-Central Florida during the 2017 Atlantic Hurricane Season, Christopher Benjamin Stryffeler, P.E., M.ASCE, *University of South Carolina*; Inthuom Sasanakul, Ph.D., P.E., *University of South Carolina*

PB07 | Effects of Cavities on the Mechanical Behavior of Pile Foundations in Weak Rock, Thao Van Thi Nguyen, *Muroran Institute of Technology*; Shima Kawamura, A.M.ASCE, *Muroran Institute of Technology*; Satoshi Matsumura, *Port and Airport Research Institute*

PB08 | Numerical Study of Quasi-Static to Dynamic Pullout Capacity of Anchors in Sand, Bahman Sheikh, M.S., Ph.D. Candidate, *Pennsylvania State University*; Tong Qiu, Ph.D., P.E., *Pennsylvania State University*

Deep Foundations: Other

PB09 | A Case History of Installation and Load Testing Challenges for Auger-Cast Piles in the Piedmont Geology, Bradford Drew, P.E., *Willmer Engineering Inc.*; Sujit K. Bhowmik, Ph.D., P.E., M.ASCE, *Willmer Engineering Inc.*; Jim L. Willmer, P.E., FASCE, *Willmer Engineering Inc.*

PB10 | Complexities of Mixed Foundation Systems for Boston Highrise, Kelvin Wong, M.S.C.E., P.E., *Haley & Aldrich, Inc.*; Damian Siebert, P.E., M.ASCE, *Haley & Aldrich, Inc.*; Sandra Iberg, M.S.C.E., P.E., *Haley & Aldrich, Inc.*

PB11 | High-Capacity Micropiles in Edmonton Shale, Onur Kacar, Ph.D., P.E., M.ASCE, *Arup*; Andrew Cushing, P.E. *Arup*

PB12 | Studies on Cyclic Behaviors of Unit Bucket for Tripod Foundation System under Various Loadings via Centrifuge Model Tests, Yeong-Hoon Jeong, *Korea Advanced Institute of Science and Technology (KAIST)*; Jae-Hyun Kim, *Korea Advanced Institute of Science and Technology (KAIST)*; Heon-Joon Park, *Korea Advanced Institute of Science and Technology (KAIST)*; Dong-Soo Kim, *Korea Advanced Institute of Science and Technology (KAIST)*

PB21 | Hydraulic Fracturing in Widely-Graded Dam Core Material, Ross D. Waters, B.E. (Hons), P.E., *University of Canterbury*; Kaley Crawford-Flett, B.E. (Hons), Ph.D., *University of Canterbury*; Mark Stringer, Ph.D., *University of Canterbury*; Jennifer Haskell, Ph.D., *University of Canterbury*

Embankments, Dams, and Slopes: Dams and Levees

PB22 | Finite Element Modeling of Partial Penetration Well Uplift Factors, Andrew M. Keffer, P.E., *U.S. Army Corps of Engineers, Huntington District*; Erich D. Guy, Ph.D., P.G., *U.S. Army Corps of Engineers, Huntington District*; Elisabeth M. Chang, *U.S. Army Corps of Engineers, Huntington District*

PB23 | Safety Evaluation and Rehabilitation for Buxi High CFRD with Face Slab Rupture, Yao Xu, *China Institute of Water Resources and Hydropower Research*; Yang Wang, Ph.D., *China Institute of Water Resources and Hydropower Research*; Rong Li, *China Institute of Water Resources and Hydropower Research*

PB24 | Geotechnical Health Assessment of Roadway Embankment Using Airborne Lidar, Ahmed H. Elmekati, Ph.D., P.E., M.ASCE, *Maser Consulting, P.A.*; Robert Dannenberg, R.P., *Maser Consulting, P.A.*; Nabil Ghanem, P.E., *Maser Consulting, P.A.*

Embankments, Dams, and Slopes: Embankment and Slope Stability

PB25 | Reliability-Based Stability Analysis of Fiber-Reinforced Infinite Slopes, Assile Abou Diab, Ph.D., *Dar Al Uloom University*; Shadi Najjar, Ph.D., A.M.ASCE, *American University of Beirut*; Salah Sadek, Ph.D., M.ASCE, *American University of Beirut*

PB28 | Design and Repair of a Reinforced Steep Slope, Pinnacle at Tutwiler Farms, Birmingham, Alabama, Robert L. Goehring, P.E., D.GE, FASCE, *ECS Southeast*

PB39 | Seismic Bearing Capacity Factor Nye for Shallow Strip Footing Using Modified Pseudo-Dynamic Method, Kshitija Nadgouda, S.M.ASCE, M.S., *Indian Institute of Technology Bombay*; Deepankar Choudhury, Ph.D., M.ASCE, *FNASC Indian Institute of Technology Bombay*

Earthquake Engineering and Soil Dynamics: Soil-Structure Interaction

PB40 | Shake Table Test of Railway Embankment Consisting of LWA and TDA, Arezoo Sadrinezhad, Ph.D., P.E., *California State University Fresno*; Fariborz M. Tehrani, Ph.D., P.E., *ENV SP, California State University Fresno*; Bhavesh Jeevanlal, *California State University Fresno*

PB41 | Numerical Assessment of Seismic Earth Pressure for Integral Abutment Bridges Mahmood Seid-Karbasi, Ph.D., *Golder Associates Ltd.*

PB42 | Seismic Behavior of Buried Pipelines in Mexico City Valley, Raul Flores-Berrones Ph.D., P.E., FASCE, *Mexican Institute of Water Technology*

PB43 | Comparison of Seismic Response of Gravity and Cantilever Retaining Wall Backfilled with Dirty Coarse-Grained Material, Faiza Khan, *Southern Illinois University Edwardsville*; Siavash Zamiran, *Marino Engineering Associates, Inc.*; Abdolreza Osouli, Ph.D., P.E., M.ASCE, *Southern Illinois University Edwardsville*

PB44 | Effects of Soil-Structure Interaction of FRP Confined Reinforced Concrete Structure under Lateral Cyclic Loading, Vivek B., Ph.D., *BITS Pilani Dubai Campus*; Prishati Raychowdhury, Ph.D., *Indian Institute of Technology Kanpur*

PB45 | Seismic Retrofit Design of a 110-year Old Railway Bridge Founded on Liquefiable Soils Using Large Diameter Driven Piles, Ali Ghandeharion, Ph.D., P.Eng., *Klohn Crippen Berger Ltd.*; James Williams, M.Sc., P.E., *Klohn Crippen Berger Ltd.*; Bruce Hamersley, P.E., *Klohn Crippen Berger Ltd.*

PB46 | Seismic Soil-Structure Interaction Response of Tall Buildings Jaime A. Mercado, M.Sc., S.M.ASCE, *University of Central Florida*; Luis G. Arboleda-Monsalve, Ph.D., M.ASCE, *University of Central Florida*; Vesna Terzi, Ph.D., *California State University Long Beach*

PB47 | Measured and Predicted Dynamic Horizontal Sliding and Rocking Response of an Embedded Footing at TAMU NGES Site, Patrick W. Dunn, Ph.D., P.E., *Duke Energy*; Dennis R. Hiltunen, Ph.D., P.E., M.ASCE, *University of Florida*

PB48 | Dynamic Numerical Evaluation of Landfill Perimeter Levee on Liquefiable Subgrade Mitigated with Cement Deep Soil Mixing, Alan F. Witthoef, P.E., G.E., M.ASCE, *Geo-Logic Associates, Inc.*; Robbie M. Warner P.E., G.E., M.ASCE, *Geo-Logic Associates, Inc.*; Neven Matasovic, Ph.D., P.E., G.E., FASCE, *Geo-Logic Associates, Inc.*

Earthquake Engineering and Soil Dynamics: Numerical Modeling

PB49 | Numerical Investigation on the Displacements and Failure Mechanism of Soil-Nailed Structures in Seismic Conditions, Hamed Dashtara, M.S., *Iran University of Science and Technology*; Amirhossein Kolahdoozan, *Iran University of Science and Technology*; Alireza Saedi Azizkandi, Ph.D., *Iran University of Science and Technology*; Mohammad Hasan Baziar, Ph.D., *Iran University of Science and Technology*

PB50 | Pore Water Response of Seabed Soils During Multi-Hazards: Model Validation, Yingqing Qiu, *Oregon State University*; H. Benjamin Mason, Ph.D., *Oregon State University*; Michael H. Scott, Ph.D., *Oregon State University*

PB51 | Finite Element Studies of an Earthquake-induced Landslide using Different Plastic Flow Rules, Chih-Hsuan Liu, *National Cheng Kung University*; Ching Hung Ph.D., *National Cheng Kung University*; Huabei Liu, Ph.D., *Huazhong University of Science and Technology*

PB52 | Fully Non-Linear Numerical Simulation of a Shaking Table Test of Dynamic Soil-Pile-Structure Interactions in Soft Clay Using Abaqus, Alaa Al-Isawi, Msc., *Brunel University London*; Philip Collins, Ph.D., *Brunel University London*; Katherine Cashell, *Brunel University London*

PB53 | The Effect of Varying Fluid Injection Activities on Induced Earthquakes through Joint-Enriched Finite Element Analyses, Danilo Zeppilli, *Rowan University*; Amade Pouya, Ph.D., *Université Paris-Est*; Cheng Zhu, Ph.D., *Rowan University*

PB54 | Effects of Rock Layering on Dynamic Response of A Gravity Dam, Yunwei Dan, MS, *University at Buffalo, SUNY*; Kamelia Atefi Monfared, Ph.D., *University at Buffalo, SUNY*; Cemal Basaran, Ph.D., *University at Buffalo, SUNY*

PB55 | Seismic Liquefaction of Sand at High Confining Pressures, Min Ni, *Rensselaer Polytechnic Institute*; Tarek Abdoun, Ph.D., *Rensselaer Polytechnic Institute*; Ricardo Dobry, Ph.D., *Rensselaer Polytechnic Institute*

Earthquake Engineering and Soil Dynamics: Laboratory Testing

PB56 | The Propagation Mechanics of Liquefied Sand Lenses Due to Cyclic Loading, Luis E. Vallejo, Ph.D., M.ASCE, *University of Pittsburgh*

PB57 | Elevation of Dynamic Pore Water Pressure Acting on Quay Walls Using 1-g Shaking Table Model Test, Salman Rahimi, *University of Arkansas*; Abbas Ghalandarzadeh, *University of Tehran*; Ali Kavand, *University of Tehran*

PB58 | Effect of Plasticity on Liquefaction of a Selected Fine Grained Soil, Sandip Uprety, P.E., M.ASCE, *Rhea Engineers & Consultants*; Vijay Puri, Ph.D., *Southern Illinois University*; Rakam Lama Tamang, P.E., M.ASCE, *Tetra Tech*; Prabir Kolay, Ph.D., P.E., M.ASCE, *Southern Illinois University Carbondale*

PB59 | Static Liquefaction Response of Medium Dense Silty-Sand of Chang Dam, Majid Hussain, *Indian Institute of Technology Gandhinagar, India*; Debayan Bhattacharya, *Indian Institute of Technology Gandhinagar, India*; Ajanta Sachan, Ph.D., *Indian Institute of Technology Gandhinagar, India*

PB60 | Stress-Strain Behaviour of Adelaide Industrial Sand Under Monotonic Loading, Reena Hora, Ph.D., *University of South Australia*; Mizanur Rahman, *University of South Australia*; Simon Beecham, *University of South Australia*; Rajibul Karim, *University of South Australia*

PB61 | Experimental Evaluation of Spatial Variability Effects on Liquefaction-Induced Settlements, Milad Jahed Orang, *University of Nevada Reno*; Sam Bruketta, *University of Nevada Reno*; Ramin Motamed, Ph.D., P.E., M.ASCE, *University of Nevada Reno*

PB62 | Effect of Smear, Well Resistance, and Stiffness on the Performance of Stone Column During Soil Liquefaction, Suravi Pal, M.Tech, *Indian Institute of Technology*; Kharagpur Kousik Deb II, Ph.D., *Indian Institute of Technology Kharagpur*

Earthquake Engineering and Soil Dynamics: Seismic Hazard Analysis, Site Response, Liquefaction

PB63 | Assessment of Lateral Spreading Estimations through the Lens of Centrifuge Modeling, Mona Doostmohammadi, North Carolina State University; Ashly Cabas Ph.D., North Carolina State University; Brina Montoya Ph.D., P.E., North Carolina State University

PB101 | A First Step in Building on a Mine Tailings Superfund Site Part 2: Full-Scale Footing Load Tests, Byron Foster, Kleinfelder, Inc.; Bret N Lingwall, Ph.D., P.E., M.ASCE, South Dakota School of Mines and Technology; Trent Parkhill, P.E., Kleinfelder, Inc.; Matt Moriarty, P.E., Kleinfelder, Inc.

Engineering Geology and Site Characterization: Part I

PB102 | Inferring Drainage Conditions During In-Situ Cone Penetration, Mark Anthony Styler, Ph.D., ConeTec Investigations; Jim Greig, MASc, ConeTec Investigations; Mary Nguyen, ConeTec Investigations

PB103 | Development of a Probabilistic Spatio-Magnitude Sinkhole Hazard Model, Yong Je Kim, University of Central Florida; Boo Hyun Nam, University of Central Florida; Heejung Youn, Hongik University

PB105 | A Centrifuge Study on the Effects of Soil Gradation on CPT Tip Resistance, Alexander P. Sturm, M.S., University of California, Davis; Greg M. Shepard, M.S., University of California, Davis; Jason T. DeJong, Ph.D., University of California, Davis; Daniel W. Wilson, Ph.D., University of California, Davis

PB106 | Effect of Acid Rain on the Structure Integrity of Red Clay, Xiong Zhang, Ph.D., P.E., Missouri University of Science and Technology; Shanmei Li, Missouri University of Science and Technology

PB107 | A First Step in Building on a Mine Tailings Superfund Site Part 1: Large Test Fills, Byron Foster, Kleinfelder, Inc.; Bret N. Lingwall Ph.D., P.E., M.ASCE, South Dakota School of Mines and Technology; Trent Parkhill P.E., Kleinfelder, Inc.; Matt Moriarty P.E., Kleinfelder, Inc.

PB108 | Design of a Deep Basement in Atypically Complex Boston Ground Conditions, Kelvin Wong M.S.C.E, P.E., Haley & Aldrich, Inc.; Damian Siebert, P.E., M.ASCE, Haley & Aldrich, Inc.; Taylor LaBrecque, M.S., Haley & Aldrich, Inc.

PB91 | Theoretical Study on the Seepage Field of Single-Well Recharge in Confined Aquifer Considering Permeability Degradation, James L. Hanson, Ph.D., P.E., M.ASCE, California Polytechnic State University; Nazli Yesiller, Ph.D., California Polytechnic State University

PB92 | In situ Characteristics of Fine Coal Refuse, Cyrus Jedari, M.ASCE, University of Tennessee; Angelica M. Palomino, Ph.D., M.ASCE, University of Tennessee; Eric C. Drumm, P.E., Ph.D., M.ASCE, University of Tennessee; Daniel Boles, P.E., M.ASCE, S&ME, Inc.

PB96 | Improved Prediction of Permeability Rates and Performance for Green Infrastructure using Standard Penetration Testing, Erica A. Vigliorolo, E.I.T., M.ASCE, Mott MacDonald; Vatsal A. Shah, P.E., Ph.D., P.P., Mott MacDonald

PB97 | Determination of Sand Void Ratio Using CPT and SPT, Sherif Wissa Agaiby, Dar Al-Handasah; Sayed Mohamed Ahmed, Ain Shams University

PB109 | Sinkhole Vulnerability Assessment Using Groundwater Monitoring and Internal Soil Raveling Analysis – A Central Florida Case Study, Ryan Shamet, University of Central Florida; Boo Hyun Nam, Ph.D., University of Central Florida; David Horhota, Florida Department of Transportation; Ton Tu, University of Central Florida

Engineering Geology and Site Characterization: Part II

PB110 | Enhanced Analysis of Landslide Failure Mechanisms in the Ozark Plateau Region with Near Surface Geophysics, Weston J. Koehn, S.M.ASCE, Kansas State University; Stacey E. Tucker-Kulesza, Ph.D., P.E., M.ASCE, Kansas State University; Vanessa Lebow, S.M.ASCE, University of Arkansas; Salman Rahimi, S.M.ASCE, University of Arkansas; Michelle L. Bernhardt-Barry, Ph.D., P.E., M.ASCE, University of Arkansas; Clinton M. Wood, Ph.D., P.E., M.ASCE, University of Arkansas

PB111 | In Situ Seismic Investigations of Coal Tailings, Min Liew, The Pennsylvania State University; Ming Xiao, Ph.D., P.E., The Pennsylvania State University

PB112 | Spatial and Temporal Variations in Moisture Content at a Sandy Beach and the Impact on Sediment Strength, Julie Paprocki, S.M.ASCE, Virginia Tech; Nina Stark, Ph.D., M.ASCE, Virginia Tech; Jesse E. McNinch, U.S. Army Corps of Engineers; Heidi Wadman, U.S. Army Corps of Engineers

PB113 | Investigating the Yield Anisotropy of Resedimented Nile Silty Clay, Sherif A. Y. Akl, Ph.D., Aff.ASCE, Cairo University; Karim M. Salaheldin, Cairo University; Hani A. Lotfi, Ph.D., Cairo University

PB114 | Surface Wave Testing and Analyses at a Gravelly site near Jackson Wyoming for Transportation Infrastructure, Shawn C. Griffiths, Ph.D., University of Wyoming; Joshua D. Frazier, B.S., University of Wyoming

PB100 | Electromagnetic Soil Heating Using Magnetic Nanoparticle-Coated Geotextiles, Ijung Kim, Ph.D., Western New England University; Caroline Best, Western New England University; Seunghee Kim, Ph.D., University of Nebraska-Lincoln

Geosynthetics

PB93 | Block Resonance Test on Geosynthetics Reinforced Foundation Beds, Hasthi Venkateswarlu, Indian Institute of Technology Patna; Amarnath Hegde, Ph.D., Indian Institute of Technology Patna

PB94 | Applicability of Mobile Photogrammetry to Measure Facing Displacement of Reinforced Soil Walls, Tomohiro Fujita, Public Works Research Institute; Hiroaki Miyatake, Public Works Research Institute; Yoshihisa Miyata, National Defence Academy

PB95 | SEM Analyses on the Long-term Performance of H2Ri Wicking Geotextile, Xiong Zhang, Ph.D., P.E., Missouri University of Science and Technology; Jianhua Yin, Missouri University of Science and Technology

PB98 | Influence of Footing Interference on Bearing Capacity Improvement for Geogrid-Reinforced Sand Bed Underlain by Soft Clay, Subinaya Saha Roy, M.E., Uttar Banga Krishi Viswavidyalaya, Indian Institute of Technology Kharagpur; Kousik Deb, Ph.D., Indian Institute of Technology Kharagpur

PB99 | Influence of Long-Term Stiffness of Geogrid on the Reinforcement Load of Reinforced Soil Retaining Wall, Huabei Liu, M.ASCE, Huazhong University of Science and Technology

PB80 | Evaluation of the Material Durability and Classification of Rocks Used in the Anzali Port Breakwater, Vahideh Tohid Karandagh, Washington State University; Mohammad Reza Nikudel, Tarbiat Modarres University of Tehran; Gholam Reza Lashkaripour, Ferdowsi University of Mashhad; Balasingam Muhunthan, Washington State University

Rock Mechanics

PB81 | Study on the Geochemical Characteristics and Weathering Behavior of Black Shale, Jian Li, Ph.D., Chongqing Jiaotong University; Xin Liao, Ph.D., Southwest Jiaotong University; Kangji Wang, Southwest Jiaotong University; Xiyong Wu, Ph.D., Southwest Jiaotong University; Jiannan Chen, Ph.D., Southwest Jiaotong University; Yingwei Xi, Sichuan Environmental Monitoring Center

PB13 | Settlement of 16 Story Office on Raft Foundation Situated on Piedmont Residuum, Paul W. Mayne, Ph.D., P.E., M.ASCE, Georgia Institute of Technology

Shallow Foundations

PB14 | Strength of Model Footing Resting on Treated Coir Mat Reinforced Sand, Prathap Kumar, M. T., Ph.D., RNS Institute of Technology; Sridhar, Sri Venkateshwara College of Engineering

PB15 | Interference of Two Closely Spaced Strip Footings Embedded in Cohesionless Fibre-Reinforced Foundation Soil Bed, Anupkumar G. Ekbote, Indian Institute of Technology (ISM); Lohitkumar Nainegali, Ph.D., Indian Institute of Technology (ISM)

PB19 | Concrete Slab-on-Grade Reinforced by Geogrids, Xiaochao Tang, Ph.D., P.E., M.ASCE, Widener University; Mohamad Jilati, Ph.D., Widener University; Isaac Higgins, Widener University

PB20 | Multivariate Global Sensitivity Analysis of Shallow Foundations Response under Controlled Rocking, Aria Fathi, MSCE, The University of Texas at El Paso; Mehran Mazari, Ph.D., A.M.ASCE, California State University Los Angeles; Mahdi Saghafi, MSCE, The University of Texas at El Paso

PB68 | Optimal Deformation Modes for Estimating Soil Properties, Anastasia Nally, Northwestern University; Zhenhao Shi, Ph.D., A.M.ASCE, Northwestern University; James P. Hambleton, Ph.D., A.M.ASCE, Northwestern University

Soil Properties and Modeling

PB69 | Progressive Change in Shear Strength of Yazoo Clay Soil, Mohammad Sadik Khan, Ph.D., P.E., Jackson State University; John Ivake, Jackson State University; Masoud Nobahar, Jackson State University

PB70 | Effect of Wet Dry Cycle on the Void Ratio of Expansive Yazoo Clay Soil, Mohammad Sadik Khan, Ph.D., P.E., Jackson State University; John Ivake, Jackson State University; Masoud Nobahar, Jackson State University; Golam Kibria, Ph.D., P.E., Arias Geoprosessionals

PB71 | Permanent Deformation Characteristics of Coarse Grained Subgrade Soils using Repeated Load Triaxial Tests, Md Mostaqur Rahman, Ph.D., E.I.T. S&ME, Inc.; Sarah L. Gassman, Ph.D., P.E., University of South Carolina

PB72 | Fatigue Crack Propagation in Stiff Clays Forming Part of Earth Dams and Natural Slopes, Luis E. Vallejo, Ph.D., M.ASCE, University of Pittsburgh; Mahiru Shettima, Ph.D., M.ASCE, Zell Engineers Inc.

PB73 | Scale Effects in the Indirect Tensile and Unconfined Compressive Strength Tests of Cement-Stabilized Base Materials, Mohammad Rashidi, University of Texas at El Paso; Reza S. Ashtiani, Ph.D., University of Texas at El Paso

PB74 | Bayesian Probabilistic Approach to Assess the Compression and Recompression Indices of Over-Consolidated Expansive Clays, Yasser Soltanpour, Ph.D., A.M.ASCE, E.I.T., WSP USA; Hosam Salman, M.Sc., P.E., F.ASCE, WSP USA

PB75 | Estimating Optimal Additive Content for Soil Stabilization Using Machine Learning Methods, Amit Gajurel, BSCE, Boise State University; Partha Sarathi Mukherjee, Ph.D., Boise State University; Bhaskar C. S. Chittoori, Ph.D., P.E., M.ASCE, Boise State University

PB76 | Oedometric Behavior of a Diatom-Kaolin Mixture, Hend H. Al Shatnawi, S.M.ASCE, New Mexico State University; Paola Bandini Ph.D., P.E., M.ASCE, New Mexico State University

Soil Properties and Modeling

PB78 | Development of a 1-D Heat Soil Test Cell for Coupled Hydro and Thermal Process, Gang Lei, S.M.ASCE, University of Texas at Arlington; Nice Kaneza, University of Texas at Arlington; Xinbao Yu, Ph.D., P.E., University of Texas at Arlington; Teng Li Omid Habizadeh-Bigdarvish, The University of Texas at Arlington

PB79 | Prediction of Unconfined Deformation Behavior of Soils Using Electrical Properties, Majid Mahmoodabadi, M.ASCE, *University of Kentucky*; Lindsey Sebastian Bryson, Ph.D., P.E., M.ASCE, *University of Kentucky*

PB82 | Potential of Tire Waste as Infill Material in Geocells for Soil Retention Systems, Sreevalsa Kolathayar, Ph.D., *Amrita Vishwa Vidyapeetham*; Rajesh Kumar C., *Amrita Vishwa Vidyapeetham*

Sustainability In Geotechnical Engineering

PB83 | Numerical Simulation of Cellular Reinforced Fly Ash Slopes, Maheboosab Babusab Nadaf, Ph.D., *IIT Bombay*; Jnanendranath Mandal II, Ph.D., *IIT Bombay*

PB84 | Evaluation of Composite Subgrade Reaction Modulus of Geosynthetic-Stabilized Recycled Subbase over Subgrade, Tanya N. Walkenbach, EIT, M.ASCE, *Chancellor's Fellow University of Kansas*; Jie Han, Ph.D., P.E., F.ASCE, *University of Kansas*; Zexia Li EIT, M.ASCE, *University of Kansas*; Robert L. Parsons, Ph.D., P.E., *University of Kansas*

PB85 | Experimental Studies on Bottom Ash and Blast Furnace Slag Based Geomaterial under Compressive Loading, Ram Rathan Lal Birali, Ph.D., *Kavikuluru Institute of Technology and Science*; Vicky Hinge, M.Tech. K.I.T.S., *Ramtek*; Sonali Nawkhare, M.E., *Priyadarshini College of Engineering*; Shanker Kandukuri, Ph.D., K.I.T.S., *Singapuram*

PB86 | Strength and Deformation Characteristics of Bottom-Ash Reinforced with Single eocell Mattress Made of Waste PET Bottles, Anil Kumar Choudhary, Ph.D., *National Institute of Technology Jamshedpur*; Jagdanand Jha, *Government of Bihar*; Sujata Fulambarkar, NIT, *Jamshedpur*

PB87 | Experimental Study of Load and Settlement Behaviour of Bamboo Grid Reinforced Sand, Sunil Kumar Ahirwar, M.Tech., *Indian Institute of Technology Bombay*; Jnanendra Nath Mandal, Ph.D., *Indian Institute of Technology Bombay*; Aditya Kumar Bhoi, M.Tech., *Indian Institute of Technology Bombay*

PB88 | Evaluation of Waste Foundry Sand and Blast Furnace Steel Slag as Geomaterials, Bhargav Kumar K. P., Ph.D., *Indian Institute of Technology Hyderabad*; Geethakrishna K. II, M.Tech, *Indian Institute of Technology Hyderabad*; Umashankar Balunaini, Ph.D., *Indian Institute of Technology Hyderabad*

PB89 | Performance Evaluation of Municipal Solid Waste as a Sustainable Backfill Material in RE Wall, Kinjal Gajjar, B.E. CIVIL ENGG, L.D. *College of Engineering*; Manish V Shah, Ph.D., L.D. *College of Engg*; Alpha Shah MSCE, L.D. *College of Engineering*

PB90 | From Sky to Sea: Geotechnical Challenges of Transforming a Former Philadelphia Airfield into Future Marine Terminal, Eric Pauli, P.E., M.ASCE, *Mott MacDonald*; Vatsal Shah, Ph.D., P.E., M.ASCE, *Mott MacDonald*

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8:30 – 10:00 a.m.	Geo-PIT: Powerful, Informative Talks on Geo-Topics, Terrace Ballroom IV							
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10:30 a.m. – 12:00 p.m.	Panel Session: GBA: Events That Changed Our Practice, Room 126A							
10:30 a.m. – 12:00 p.m.	Panel Session: Fostering Innovation in Tunneling and Underground Construction, Room 120B							
10:30 a.m. – 12:00 p.m.	Technical Sessions							
Track A Room 122A	Track B Room 125	Track C Room 123	Track D Room 124	Track E Room 121B	Track F Room 120C	Track G Room 121A	Track H Room 121C	
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Optimizing the Design of Driven Pile Foundations with Instrumented Static Load Tests , Peter A. Narsavage, P.E., M.ASCE, E.L. Robinson Engineering Validation of Pile Design Methods for Closed-Ended Driven Pipe Piles , Fei Han, Ph.D., M.ASCE, Purdue University; Vibhav Bisht S.M.ASCE, Purdue University; Monica Prezzi, Ph.D., M.ASCE, Purdue University; Rodrigo Salgado, Ph.D., P.E., D.G., F.ASCE, Purdue University New Technology Center Development Foundation System – A Case Study in Driven Pipe Piles , Frederick A. Brinker BSCE, MSCE, P.E., M.ASCE, DFI, ADSC, Engineers Club of Philadelphia, DVGI Pennoni	Case History Summaries of 5 Slope Failures, Missed Predictions and Lessons Learned , Garry H. Gregory, Ph.D., P. E., D.GE, M.ASCE, Gregory Geotechnical Influence of Hydrologic Behavior in Assessing Rainfall-Induced Landslides , Faisal S. Ahmed S.M.ASCE, University of Kentucky; Lindsey Sebastian Bryson, Ph.D., P.E., M.ASCE, University of Kentucky Effects of Particle Size on Impact Force from a Granular Sliding Mass on a Rigid Obstruction , Andrew W Grant, The Pennsylvania State University; Amir Ahmadipur, The Pennsylvania State University; Tong Qiu, Ph.D., The Pennsylvania State University	The Effect of Shaking History on Liquefaction Resistance of Sand Deposit Using Shake Table Testing , Jintai Wang S.M.ASCE, Geosyntec Consultants; Sajjad Salam, The Pennsylvania State University; Ming Xiao, The Pennsylvania State University Liquefaction Mitigation of Silty Sands via Microbial Induced Partial Saturation , Sayedmasoud Mousavi, University of New Hampshire; Majid Ghayoomi, Ph.D., P.E., University of New Hampshire Cyclic Behavior of a Reconstituted Gulf of Mexico Clay , Vashish Taukoor S.M.ASCE, University of Illinois at Urbana-Champaign; Cassandra J. Rutherford, Ph.D., P.E., M.ASCE, Iowa State University; Scott M. Olson, Ph.D., P.E., M.ASCE, University of Illinois at Urbana-Champaign	Nonlinear Failure Envelope for Microbial Induced Calcium Carbonate Precipitation Treated Sand , Ashkan Nafisi E.I, North Carolina State University; Brina Montoya, Ph.D., P.E., North Carolina State University Microbial Induced Calcite Precipitation of Dune Sand using a Surface Spray Technique , Raphael Crowley, Ph.D., P.E., M.ASCE, University of North Florida; Matthew Davies M.S., University of North Florida; Terri N. Ellis, Ph.D., University of North Florida; Nick Hudyma, Ph.D., P.E., M.ASCE, University of North Florida; Paige Ammons, University of North Florida; Christian Matemu B.S., University of North Florida Minimizing Wind Erosion using Microbial Induced Carbonate Precipitation , Pierre Bick, Lehigh University; Hridaya Bastola, Lehigh University; Muhammad T. Suleiman, Ph.D., Lehigh University; Jianbo Gu, Lehigh University; Panayiotis Diplas, Ph.D., Lehigh University; Derick Brown, Ph.D., Lehigh University; Nabil Zouari, Ph.D., Qatar University	Evaluation of Unsaturated Soil Seepage and Protection of Basement Slab During Flooding , Ajay Shastri, Ph.D., P.E., A.ASCE, Distinct Engineering Solutions Inc; Ram Kasturi, P.E., Distinct Engineering Solutions Inc; Ram Tirumala, P.E., Distinct Engineering Solutions Inc Effect of Lime Stabilization on the Unsaturated Hydraulic Conductivity of Clayey Soil in Texas , Puneet Bhaskar M.S, University of Texas at Arlington; Burak Boluk, University of Texas at Arlington; Aritra Banerjee, Ph.D., A.M.ASCE, University of Texas at Arlington; Ali Shafikhani, University of Texas Arlington; Anand Puppala, Ph.D., P.E., F.ASCE, D.GE, University of Texas at Arlington Measuring Thermal Conductivity of Unsaturated Sand under Different Temperatures and Stress Levels Using a Suction-Controlled Thermo-Mechanical Method , Jun Yao, Ph.D., DMY Engineering Consultants Inc.; Tengfei Wang, Beijing Jiaotong University; William Likos, Ph.D., M.ASCE, University of Wisconsin-Madison	One Dalton Hotel & Residences: Implementation of a Ground Movement Control Measure for a Deep Excavation in Boston Blue Clay , Mark X. Haley, P.E., Haley & Aldrich; Jean Louis Z. Locsin, P.E., Ph.D., Haley & Aldrich; Jesse D. Siegel, P.E., Haley & Aldrich Design and Performance of a Temporary Concrete Diaphragm Wall Excavation Support System in South Boston , Wylan Carswell, Ph.D., Haley & Aldrich; Damian Siebert, P.E., M.ASCE, Haley & Aldrich Numerical Analysis of a TBM Retrieval Shaft Construction Using Deep Soil Mixing , Onur Kacar, Ph.D., P.E., Arup USA; Chu Ho, Sc.D., P.E., Arup USA	Updated Reference Shear Wave Velocity Curves for Near-Surface Site Characterization , Salman Rahimi, University of Arkansas at Fayetteville; Clinton M. Wood, A.M.ASCE, University of Arkansas at Fayetteville; Michelle L. Bernhardt, A.M.ASCE, University of Arkansas at Fayetteville; Ashraf Kamal Himel, University of Arkansas at Fayetteville Long-Term Monitoring of a Slow Moving Landslide before and after Remediation Using Ground-Based Radar Interferometry , Francisco Gomez, Ph.D., R.G., University of Missouri; Brent L. Rosenblad, Ph.D., P.E., M.ASCE, University of Missouri; J. Erik Loehr, Ph.D., P.E., F.ASCE, University of Missouri; Jared Smoot, University of Missouri; Ben Lowry, Colorado School of Mines Theoretical Evaluation of the Interval Method Commonly Used for Downhole Seismic Testing , Mohamad M. Hallal, B.E., S.M.ASCE, University of Texas at Austin; Brady R. Cox, Ph.D., P.E., A.M.ASCE, University of Texas at Austin	Plate Load Testing on Layered Pavement Foundation System to Characterize Mechanistic Parameters , David J. White, Ph.D., P.E., M.ASCE, Ingios Geotechnics, Inc.; Pavana Venappasa, Ph.D., P.E., M.ASCE, Ingios Geotechnics, Inc.; Jeffery R. Roesler, Ph.D., P.E., University of Illinois Urbana-Champaign; William Vavrik, Ph.D., P.E., M.ASCE, Applied Research Associates Long-Term Field Performance of Geosynthetics in Pavement Subgrades in Virginia , M. Shabbir Hossain, Ph.D., P.E., M.ASCE, Virginia Department of Transportation; Edward J. Hoppe, Ph.D., P.E., M.ASCE, Virginia Department of Transportation; Chaz Weaver, P.E., F.ASCE, Virginia Department of Transportation Using Soil-Moisture Active Passive Satellite Data to Evaluate the Performance of Transportation Infrastructure Foundations – A Feasibility Study , Simon Packman, S.M.ASCE, California State University Los Angeles; Sonya R. Lopez, Ph.D., California State University Los Angeles / NASA Data Intensive Research and Education Center for STEM; Aria Fathi, S.M.ASCE, The University of Texas at El Paso; Mehran Mazari, Ph.D., A.M.ASCE, California State University Los Angeles	

10:30 a.m. – 12:00 p.m. Technical Sessions							
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<p>Deep Foundations: Driven Piles Moderators: Muhannad T. Suleiman, A.M.ASCE, Jared M. Green, P.E., M.ASCE</p>	<p>Embankments, Dams, and Slopes: Landslides Moderators: William K. Petersen, P.E., M.ASCE, Daniel R. Vanden Berge, P.E., M.ASCE</p>	<p>Earthquake Engineering and Soil Dynamics: Laboratory Testing Moderators: Majid Ghayoomi, Ph.D., P.E., M.ASCE, James Kaklamanos, Ph.D., EIT, A.M.ASCE</p>	<p>Soil Improvement: Microbially Induced Calcite Precipitation Moderators: Bret N. Lingwall, P.E., M.ASCE, Leon A. Van Paassen Aff.M.ASCE</p>	<p>Unsaturated Soils Moderators: Kalehiwat Nega Manahiloh, Ph.D., P.E., M.ASCE, Tugce Baser, A.M.ASCE</p>	<p>Earth Retaining Structures: Top-Down Construction Moderators: J. Tanner Blackburn, Ph.D., P.E., M.ASCE, Burak F. Tanyu C.Eng, M.ASCE</p>	<p>Geophysical Engineering Moderators: Clinton M. Wood, Ph.D., P.E., M.ASCE, Barbara Luke, Ph.D., P.E., D.GE, FASCE</p>	<p>Pavements: Part I Moderators: Reza S. Ashtiani, Ph.D., P.E., Ahmed Faheem A.M.ASCE</p>
<p>Development of Axial Load Transfer (T-Z) Analytical Model for the PSC Piles, Md. Nafii Haque, <i>Louisiana State University</i>; Murad Abu-Farsakh, <i>Louisiana State University</i></p> <p>A Numerical Study of Pre-Boring Impacts on Side Friction of Piles, Shengli Chen, Ph.D., <i>Louisiana State University</i>; Lin Li, Ph.D., <i>Louisiana State University</i>; Zhongjie Zhang, Ph.D., P.E., <i>Louisiana Department of Transportation and Development</i></p> <p>Evaluation of Direct CPT Methods for Estimating the Ultimate Capacity of Driven Piles, Murad Abu-Farsakh, Ph.D., P.E., FASCE, <i>Louisiana State University</i>; Mohsen Amirmojahedi, <i>Louisiana State University</i></p>	<p>Hydrological Behavior of an Infiltration Induced Landslide in Colorado, USA, Alexandra Wayllace, Ph.D., P.E., <i>Colorado School of Mines</i>; Ning Lu, Ph.D., FASCE, <i>Colorado School of Mines</i>; Barbara Thunder M.S., <i>Civil and Environmental Engineering Hart Crowser</i></p> <p>Stabilization of Rainfall-Induced Slope Failure and Pavement Distresses using Recycled Plastic Pins and Modified Moisture Barrier, Anuja Sapkota, <i>The University of Texas at Arlington</i>; Asif Ahmed, Ph.D., <i>The University of Texas at Arlington</i>; Pratibha Pandey, <i>The University of Texas at Arlington</i>; Md. Sahadat Hossain, Ph.D., P.E., <i>The University of Texas at Arlington</i>; Nicasio Lozano, <i>Texas Department of Transportation</i></p> <p>Investigation, Monitoring and Design of an Anchored Retaining Wall at the Base of a Moving Slope, Jason D. Ross, P.E., M.ASCE, S&ME, Inc.; Michael G Rowland, P.E., M.ASCE, S&ME, Inc.; Brett A Dregler, P.E., M.ASCE, <i>American Electric Power</i>; Charles A. Nutt, P.E., <i>Varo Engineers, Inc.</i></p>	<p>Evaluating Seismic Behavior of Intermediate Silty Sands of Low Plasticity from Emilia Romagna, Italy, Daniela Dominica Porcino, <i>University Mediterranea of Reggio, Calabria</i> Paola Monaco, <i>University of L'Aquila</i>; Laura Tonni III, <i>University of Bologna</i></p> <p>On the Effects of Inadequate Height Control in Constant Volume Monotonic and Cyclic Direct Simple Shear Test, Kaveh Zehtab, <i>Geocomp Corp.</i>; Seda Gokyer, Ph.D., <i>Geocomp Corp.</i>; Salim K Werden, <i>Geocomp Corp.</i>; W. Allen Marr, Ph.D., P.E. FASCE, NAE, <i>Geocomp Corp.</i>; Artur Apostolov, <i>Geocomp Corp.</i></p> <p>Centrifuge Modeling and Analysis of Level Site Liquefaction Subjected to Biaxial Dynamic Excitations, Omar Elshafee, Ph.D., <i>Rensselaer Polytechnic Institute</i>; Tarek Abdoun, Ph.D., <i>Rensselaer Polytechnic Institute</i>; Mourad Zeghal, Ph.D., <i>Rensselaer Polytechnic Institute</i></p>	<p>Microbiologically Induced Calcite Precipitation using Surfactants for the Improvement of Organic Soil, Matthew Davies M.S., <i>University of North Florida</i>; Raphael Crowley, Ph.D., P.E., M.ASCE, <i>University of North Florida</i>; Terri N. Ellis, Ph.D., <i>University of North Florida</i>; Nick Hudyma, Ph.D., P.E., M.ASCE, <i>University of North Florida</i>; Paige Ammons, <i>University of North Florida</i>; Christian Matemú B.S., <i>University of North Florida</i>; Scott Wasman, Ph.D., <i>University of Florida</i>; Mohammed Yahaya B.S., <i>University of Florida</i>; Jennifer Ford B.S., <i>University of Florida</i>; Andrew R. Zimmerman, <i>University of Florida</i></p> <p>Evaluating Shallow Mixing Protocols as Application Methods for Microbial Induced Calcite Precipitation Targeting Expansive Soil Treatment, Bhaskar C. S. Chittoori, Ph.D., P.E., M.ASCE, <i>Boise State University</i>; Tasria Rahman, <i>Boise State University</i>; Malcolm Burbank, Ph.D., CDM Smith; Arif Ali Baig Moghal, Ph.D., M.ASCE, <i>NIT Warangal</i></p> <p>Investigating Ammonium By-Product Removal Following Stimulated Ureolytic Microbially-Induced Calcite Precipitation, Minyong Lee, <i>University of Washington</i>; Colin M. Kolbus, <i>University of Washington</i>; Andres D. Yepes, <i>University of Washington</i>; Michael G. Gomez, Ph.D., A.M.ASCE, <i>University of Washington</i></p>	<p>Characterizing the Unsaturated Strength Behavior of a Native Transition Soil Used as Backfill in the Construction of US 301, Section 3, Mehdi Kadivar, Ph.D., <i>Candidate University of Delaware</i>; Kalehiwat Nega Manahiloh, Ph.D., P.E., <i>University of Delaware</i>; Victor N. Kaliakin, Ph.D., <i>University of Delaware</i></p> <p>Stability of Unsaturated Sand Beds in the Intertidal Zone during Tsunami Loading, Babak Mahmoodi, <i>University of Maine</i>; Aaron P Gallant, Ph.D., P.E., M.ASCE, <i>University of Maine</i>; Benjamin Mason, Ph.D., <i>Oregon State University</i></p> <p>Large-Scale Cyclic Plate Loading Tests of Wicking Geotextile-Stabilized Bases with Rainfall Simulation, Jun Guo, <i>Shenzhen University</i>; Jie Han, <i>University of Kansas</i>; Xiong Zhang, <i>Missouri University of Science and Technology</i></p>	<p>Deep Excavations in Central Jakarta Area: A Case History and Numerical Simulations, Fuchen Teng, Ph.D., <i>National Taiwan University of Science and Technology</i>; Melisa Kosasi, <i>National Taiwan University of Science and Technology</i>; Benson Hsiung, Ph.D., P.E., <i>National Kaohsiung University of Science and Technology</i></p> <p>Restoring RW5 at Yeager Airport: Design and Construction of a Tall Retaining Wall on the Side of a Mountain, Johanna Simon, P.E., M.ASCE, <i>Schnabel Engineering</i>; Allen Cadden, P.E., D.GE, FASCE, <i>Schnabel Engineering</i>; Phil Shull, P.E., M.ASCE, <i>Schnabel Engineering</i>; Michael Senior E.I.T., M.ASCE, <i>Schnabel Engineering</i></p> <p>Ultimate Limit State Design Using FEM and Advanced Soil Model – A Case History of a 30m Deep Excavation in London UK, Hoe-Chian Yeow, Ph.D., CEng, <i>MICE COWI UK Ltd.</i></p>	<p>Detection of Voids in Karst Terrain With 3D Full Waveform Tomography, Khiem Tran, <i>University of Florida</i>; Michael McVay, Ph.D., <i>University of Florida</i>; Majid Mirzanejad, <i>University of Florida</i>; Scott Wasman, Ph.D., <i>University of Florida</i></p> <p>Geophysical Study of Natural Bridge, Virginia: A Comparison of Methods, Warren T. Dean, P.G., <i>Draper Aden Associates</i>; Christopher M. Printz, P.G., <i>Draper Aden Associates</i>; Johanna M. Vaughan, <i>Draper Aden Associates</i>; Ethan T. Truman, <i>Draper Aden Associates</i></p>	<p>Performance Evaluation of Pavement Subgrade by In-Situ Moisture and Matrix Suction Measurement, Pratibha Pandey, <i>The University of Texas at Arlington</i>; Asif Ahmed, Ph.D., E.I.T., <i>State University of New York (SUNY) Polytechnic Institute</i>; Anuja Sapkota, <i>The University of Texas at Arlington</i>; Sahadat Hossai, Ph.D., P.E., <i>The University of Texas at Arlington</i>; Boon Thian, <i>Texas Department of Transportation</i></p> <p>Assessment of Geotextile Effectiveness in Decreasing Subgrade Pumping and Increasing Service Life in Rigid Pavements, Using Scaled Model Mobile Load Simulator, Behnoud Kermani, S.M.ASCE, GSI Fellow, <i>The Pennsylvania State University</i>; Shelley Marie Stoffels, DE, M.ASCE, <i>The Pennsylvania State University</i>; Ming Xiao, Ph.D., P.E., M.ASCE, <i>The Pennsylvania State University</i></p> <p>Mechanistic Assessment of Layered Pavement Foundation System using Validated Intelligent Compaction Measurements, David White, Ph.D., P.E., <i>Ingios Geotechnics, Inc.</i>; Pavana Vennapusa, Ph.D., P.E., <i>Ingios Geotechnics, Inc.</i>; Erol Tutumluer, Ph.D., <i>University of Illinois at Urbana-Champaign</i>; Maziar Moaveni, Ph.D., P.E., <i>University of Illinois at Urbana-Champaign</i></p>
12:00 – 1:30 p.m. Lunch, Exhibit Hall E							

1:30 - 3:00 p.m. Panel Session: Urban Excavation Support, Room 126A							
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Track A Room 122A	Track B Room 125	Track C Room 123	Track D Room 124	Track E Room 121B	Track F Room 120C	Track G Room 121A	Track H Room 121C
<p>Deep Foundations: Drilled Shafts Moderators: Michael B. Fritzges, P.E., M.ASCE, Jose Luiz Machado Clemente, Ph.D., P.E., D.GE, F.ASCE</p>	<p>Lessons Learned from Embankments, Dams, and Slopes: Case Histories Moderators: Timothy D. Stark, Ph.D., P.E., D.GE, F.ASCE, Rafael A. Prieto</p>	<p>Earthquake Engineering and Soil Dynamics: Seismic Hazard Analysis, Site Response, and Liquefaction Moderators: Menzer Pehlivan, Ph.D., P.E., M.ASCE, Ramin Motamed, Ph.D., P.E., M.ASCE</p>	<p>Soil Improvement: Fiber Reinforcement and Soil Stabilization Moderators: Prabir Kumar Kolay, Ph.D., P.E., M.ASCE, Jonathan F. Hubler A.M.ASCE</p>	<p>Computational Geotechnics Moderators: Marta Miletić, Victor N. Kaliakin, Ph.D., M.ASCE</p>	<p>Earth Retaining Structures: Bottom-Up Construction Moderators: James A. McKelvey, III, P.E., D.GE, F.ASCE, Miguel A. Pando, P.E., M.ASCE</p>	<p>Geotechnics of Soil Erosion Moderators: Stacey E. Tucker-Kulesza, P.E., M.ASCE, Junliang Tao A.M.ASCE</p>	<p>Pavements: Part II Moderators: Reza S. Ashtiani, Ph.D., P.E.; Bora Cetin, Ph.D.</p>
<p>Modulus of Elasticity Impact on Equivalent Top-Loaded Curves from Bi-Directional Static Load Tests, Rozbeh B Moghaddam, P.E., Ph.D., M.ASCE, <i>GRL Engineers, Inc.</i>;</p> <p>Van E. Komurka, P.E., D.GE, F.ASCE, <i>GRL Engineers, Inc.</i>TM.</p> <p>Behavior of Rock-Socketed Drilled Shaft under Uni-Axial Loading – A Parametric Study, Saidur M. Rahman, P.E., <i>Gannett Fleming, Inc.</i>; Shafiq I. Siddiqui, Ph.D., P.E., <i>Gannett Fleming, Inc.</i>;</p> <p>Kimberly Sharp, NJDOT</p> <p>Hudson Yards: A New Look at High-Capacity Caissons to Bedrock in Manhattan, Michael Paquette, P.E., <i>Langan</i>; Saul Shapiro, P.E., <i>Langan</i>; Marc Gallagher, P.E., LEED AP, <i>Langan</i></p> <p>A Robust Approach for Selecting LRFD Characteristic Values of Uncertain Soil Parameters for Design of Drilled Shaft in Sand, Sara Khoshnevisan, Ph.D., A.M.ASCE, <i>Clarkson University</i>; Xiaohui Tan, Ph.D., <i>Hefei University of Technology</i>; Mengfen Shen, <i>Clemson University</i>; Charng Hsein Juang, Ph.D., F.ASCE, P.E., <i>Clemson University</i>; Yongjie Zhang, Ph.D., <i>Changsha University of Science & Technology Hunan</i></p>	<p>Case Study – Settlement of a Hydropower Dam Structure during 2015 Gorkha Earthquake, Binod Tiwari, Ph.D., P.E., MSCE, <i>California State University, Fullerton</i>; Beena Ajmera, Ph.D., <i>California State University, Fullerton</i>; Vivek Kumar Timbadia MSCE, <i>California State University, Fullerton</i></p> <p>Deformation Analysis of the 233m Shuibuya Rockfill Dam Using Breakage Mechanics, Xiang Zhou, <i>University of Colorado Boulder</i>; Yida Zhang, Ph.D., <i>University of Colorado Boulder</i>; Gang Ma, Ph.D., <i>Wuhan University</i></p> <p>MSE Wall Global Stability and Lessons Learned, Michael T. Lustig, P.E., <i>Iowa State University</i>; Timothy D. Stark, Ph.D., P.E., F.ASCE, <i>University of Illinois at Urbana-Champaign</i>; Richard L. Handy, Ph.D., <i>Iowa State University</i></p> <p>La Conchita Landslide, Case History and Remedial Measures, Daniel Pradel, Ph.D., P.E., G.E., D.GE., F.ASCE, <i>The Ohio State University</i></p>	<p>Mexico City Basin Effects: Past, Present, and Future, Domniki Asimaki Sc.D., A.M.ASCE, <i>Caltech</i>; Juan Manuel Mayoral Villa, <i>Instituto de Ingeniería de la UNAM</i>; Peyman Ayoubi, <i>Caltech</i>; Kevin Franke, <i>Brigham Young University</i>; Tara Hutchinson, <i>University of California, San Diego</i></p> <p>In-Situ Investigation of False-Positive Liquefaction Sites in Christchurch, New Zealand: Palinurus Road Case, History, Kaleigh A. McLaughlin M.S., E.I., <i>Langan Engineering and Environmental Services, Inc.</i>; Brady R. Cox, Ph.D., P.E., <i>University of Texas at Austin</i>; Liam Wotherspoon; Ross W. Boulanger; Sjoerd van Ballegooy; Misko Cubrinovski</p> <p>The Importance of Quantifying Spatial Variability in Assessing the Risk of Liquefaction in a Recently Reclaimed Site, Ahmad Kahiel, Ph.D., <i>American University of Beirut</i>; Shadi Najjar, A.M.ASCE, <i>American University of Beirut</i>; Salah Sadek M.ASCE, <i>American University of Beirut</i></p> <p>Generating Synthetic Borehole Data for Applications in Site-Specific and Regional Evaluation of Liquefaction Consequences, Zach Bullock, <i>University of Colorado Boulder</i>; Shideh Dashti, <i>University of Colorado Boulder</i>; Abbie B. Liel, <i>University of Colorado Boulder</i>; Keith A. Porter, <i>University of Colorado Boulder</i></p>	<p>Drained Triaxial Response of Clay Reinforced with Hemp fibers, Mohamad ElAhmad B.E., <i>American University of Beirut</i>; Salah Sadek, Ph.D., M.ASCE, <i>American University of Beirut</i>; Shadi Najjar, Ph.D., A.M.ASCE, <i>American University of Beirut</i></p> <p>Stabilization of Expansive Soil Using Injection of Liquid Ionic Soil Stabilizer: A Case Study Between Field and Laboratory Treatment, Sandeh Gautam, <i>University of Texas at Arlington</i>; Shi He, <i>University of Texas at Arlington</i>; Xinbao Yu, Ph.D., P.E., <i>University of Texas at Arlington</i></p> <p>Effect of Lime Sludge, Polypropylene Fiber on Unconfined Compressive Strength And Shrinkage Behavior of Kaolinite Clay, Sandeep G. Burra M.S., <i>Southern Illinois University Carbondale</i>; Prabir K. Kolay, Ph.D., P.E., M.ASCE, <i>Southern Illinois University Carbondale</i>; Sanjeev Kumar, Ph.D., P.E., F.ASCE, <i>Southern Illinois University Carbondale</i>; Vijay K. Puri, Ph.D., <i>Southern Illinois University Carbondale</i></p> <p>Strength Characteristics of Lime and Bottom Ash Reinforced Expansive Soils, Thang Minh Le M.S., <i>University of Technology Sydney</i>; Liet Chi Dang M.Eng., <i>University of Technology Sydney</i>; Hadi Khabbaz, Ph.D., <i>University of Technology Sydney</i></p>	<p>Simulation of the Cutting Process in Softening and Hardening Soils, Zhefei Jin, <i>Northwestern University</i>; James Paul Hambleton, Ph.D., <i>Northwestern University</i></p> <p>Numerical Modeling of a Free Fall Penetrometer Deployment Using the Material Point Method, Luis E. Zambrano-Cruzatty, M.Sc., <i>Virginia Polytechnic Institute and State University</i>; Alba Yerro, Ph.D.; <i>Virginia Polytechnic Institute and State University</i>; Nina Stark, Ph.D., <i>Virginia Polytechnic Institute and State University</i></p> <p>Thermo-Mechanical Behavior of Saturated Clays Using Discrete Element Modelling, Karam A. Jaradat, M.Sc., <i>Stony Brook University</i>; Sherif L. Abdelaziz, Ph.D., A.M.ASCE, <i>Stony Brook University</i></p> <p>Effect of Particle Size on the High Strain Rate Response of Sand, Sudheer Sudhakaran Prabhu, <i>Pennsylvania State University</i>; Tong Qiu, Ph.D., P.E., <i>Pennsylvania State University</i></p>	<p>Observational Design Approach: Foundation Construction beneath the Philadelphia Museum of Art, Timothy S. Becker, P.E., M.ASCE, <i>Haley & Aldrich, Inc.</i>; R. Scott Goldkamp, P.E., <i>Haley & Aldrich, Inc.</i>; Mark X. Haley, P.E., <i>Haley & Aldrich, Inc.</i></p> <p>Numerical Simulation of Stress Distribution Beneath the Foundation of a Geosynthetic Reinforced Soil Bridge Abutment Using Parametric Studies, Majid Talebi, Ph.D., P.E., M.ASCE, <i>Marino Engineering Associates, Inc.</i>; Christopher Meehan, Ph.D., P.E., F.ASCE, <i>University of Delaware</i></p> <p>Perimeter Gabion MSE Wall of a New Combined Cycle Power Plant in Massachusetts, Marco Isola, Ph.D., P.E., M.ASCE, <i>Maccaferri Inc.</i>; Andrew Woodward, <i>Bond</i>; Richard Prejs, <i>Maccaferri Inc.</i></p> <p>A Simple and Rigorous Approach for Probabilistic Internal Stability Analysis and Design of Reinforced Soil Walls, Richard J. Bathurst, Ph.D., M.ASCE, <i>Royal Military College of Canada</i></p>	<p>Influence of Shear Strength and Moisture Content on Aeolian Sand Erosion, Luis E Zambrano-Cruzatty, M.Sc., <i>Virginia Polytechnic Institute and State University</i>; Alba Yerro, Ph.D., <i>Virginia Polytechnic Institute and State University</i>; Nina Stark, Ph.D., <i>Virginia Polytechnic Institute and State University</i></p> <p>A GIS-Based Platform for Near Real Time Bridge Scour Risk Assessment Using the HYRISK Model, James Curra, S.M.ASCE, <i>Manhattan College</i>; Mehdi Omidvar, Ph.D., A.M.ASCE, <i>Manhattan College</i>; Brent Horine, Ph.D., <i>Manhattan College</i></p> <p>Soil Deformation and Mechanical Behavior Induced by Internal Erosion under Complex Stress States, Chen Laura Chen, <i>Hong Kong University of Science and Technology</i>; Limin Zhang, Ph.D., F.ASCE, <i>Hong Kong University of Science and Technology</i></p> <p>Monitoring Stream Bank Geometry at Headwaters in a Densely Developed Watershed, James D. Kugel, S.M.ASCE, <i>Villanova University</i>; Emily E. Caramelas, S.M.ASCE, <i>Villanova University</i>; Andrea L. Welker, Ph.D., P.E., M.ASCE, <i>Villanova University</i>; Stanley J. Kemp, Ph.D., <i>University of Baltimore</i></p>	<p>Case History of a Geosynthetic-Stabilized Base Roadway Founded Over Expansive Clay Subgrade, Liming Zheng, <i>University of Texas at Austin</i>; Gholam Hossein Roodi, <i>University of Texas at Austin</i>; Jorge G. Zornberg, <i>University of Texas at Austin</i></p> <p>Laboratory Testing of an Externally Heated Bridge Deck Subjected to Wind, Mark Timothy Hurley, <i>University of Texas at Arlington</i>; Xinbao Yu, Ph.D., P.E., <i>University of Texas at Arlington</i>; Gang Lei, S.M.ASCE, <i>University of Texas at Arlington</i></p> <p>Cyclic Plate Load Testing for Assessment of Asphalt Pavements Supported on Geogrid Stabilized Granular Foundation, David J. White, Ph.D., P.E., M.ASCE, <i>Ingios Geotechnics, Inc.</i>; Pavana Vennapusu, Ph.D., P.E., M.ASCE, <i>Ingios Geotechnics, Inc.</i>; John Siekmeier, P.E., M.ASCE, <i>Minnesota DOT</i>; Heath Gieselman, M.S., <i>Ingios Geotechnics, Inc.</i></p> <p>Assessment of Tactile Pressure Sensors for Measuring Interface Pressures in Mechanically Stabilized Layers, Madan Neupane, Ph.D., <i>Gannett Fleming, Inc. – Marlton Office</i>; Jie Han, <i>University of Kansas</i>; Robert L. Parsons, Ph.D., <i>University of Kansas</i>; Mike Horton, <i>Tensor International</i></p>

1:30 – 3:00 p.m.	Technical Sessions						
Track A Room 122A	Track B Room 125	Track C Room 123	Track D Room 124	Track E Room 121B	Track F Room 120C	Track G Room 121A	Track H Room 121C
Deep Foundations: Drilled Shafts Moderators: Michael B. Fritzges, P.E., M.ASCE, Jose Luiz Machado Clemente, Ph.D., P.E., D.GE, F.ASCE	Lessons Learned from Embankments, Dams, and Slopes: Case Histories Moderators: Timothy D. Stark, Ph.D., P.E., D.GE, F.ASCE, Rafael A. Prieto	Earthquake Engineering and Soil Dynamics: Seismic Hazard Analysis, Site Response, and Liquefaction Moderators: Menzer Pehlivan, Ph.D., P.E., M.ASCE, Ramin Motamed, Ph.D., P.E., M.ASCE	Soil Improvement: Fiber Reinforcement and Soil Stabilization Moderators: Prabir Kumar Kolay, Ph.D., P.E., M.ASCE, Jonathan F. Hubler A.M.ASCE	Computational Geotechnics Moderators: Marta Miletic, Victor N. Kaliakin, Ph.D., M.ASCE	Earth Retaining Structures: Bottom-Up Construction Moderators: James A. McKelvey, III, P.E., D.GE, F.ASCE, Miguel A. Pando, P.E., M.ASCE	Geotechnics of Soil Erosion Moderators: Stacey E. Tucker-Kulesza, P.E., M.ASCE, Junliang Tao A.M.ASCE	Pavements: Part II Moderators: Reza S. Ashtiani, Ph.D., P.E.; Bora Cetin, Ph.D.
Lateral Load Test for Large Diameter Drilled Shafts for the Kosciuszko Bridge Replacement , Daniela Bastos Zellers, P.E., WSP; Sherif Hanna, P.E., WSP; Matteo Ferrucci, P.E., WSP; Robert Adams, P.E., <i>New York State Department of Transportation</i> ; Jeffrey Moryl, P.E., <i>New York State Department of Transportation</i> Foundation Design Case Study – 1800 Arch Street High Rise Tower , Daniel P. Marano Jr. MS, P.E., M.ASCE, Pennoni	Evaluation of the Mechanical Behavior of Shirin-Dare Earth Dam by the Numerical Analysis and Monitoring , Mohammad Rashidi, <i>University of Texas at El Paso</i> ; Reza S. Ashtiani, Ph.D., <i>University of Texas at El Paso</i> ; Habib Rasouli, <i>University of Technology Sydney</i> Column-Supported Embankment: Failure and Remedy , Radoslaw L. Michalowski, Ph.D., F.ASCE, <i>University of Michigan</i> ; Andrzej Wojtasik, Ph.D., <i>Poznan University of Technology</i> ; Adam Duda M.Sc., <i>Poznan University of Technology</i> ; Antoni Florkiewicz, Ph.D., <i>Poznan University of Technology</i> ; Downon Park, Ph.D., <i>University of Michigan</i>	Influence of Gaps in Capping Clay Layer on Liquefaction – Induced Settlement , Sara Khoshnevisan, Ph.D., M.ASCE, <i>Clarkson University</i> ; Lei Wang, Ph.D., M.ASCE, <i>University of District of Columbia</i> ; Wei Wang, Ph.D., <i>Institute of Disaster Prevention</i> ; Chang Hsein Juang, Ph.D., F. ASCE, <i>Clemson University</i> An Analysis of Liquefaction-Induced Free-Field Ground Settlement Using 1,000+ Case-Histories: Observations vs. State-of-Practice Predictions , Mertcan Geyin, M.S., S.M.ASCE, <i>University of Washington</i> ; Brett W. Maurer, Ph.D., A.M.ASCE, <i>University of Washington</i>	Behaviors of Expansive Soils Mixed with Polymeric Stabilizing Foams , Xijin Zhang, S.M.ASCE, <i>Case Western Reserve University</i> ; Xiong Yu, Ph.D., P.E., F.ASCE, <i>Case Western Reserve University</i> ; Yuan Guo, Ph.D., <i>Case Western Reserve University</i> ; Xudong Fan, <i>Case Western Reserve University</i> Effect of Moulding Water Content and Dry Density on Performance of Treated Coir Fiber Reinforced BC Soil , Jai Raj M.E., <i>Nitte Meenakshi Institute of Technology</i> ; Prathap Kumar M. T., Ph.D., <i>R N S Institute of Technology</i>	The Effects of Stress Redistribution on the Propagation of Stress Waves beneath the Bottom of Drilled Shaft Excavations , Alireza Kordjazi, <i>Temple University</i> ; Joseph Thomas Coe, Ph.D., <i>Temple University</i> Coupled Analysis of Wave, Structure, and Sloping Seabed Interaction: Response and Instability of Seabed , Amin Rafiei, <i>North Carolina State University</i> ; M.S. Rahman, Ph.D., <i>North Carolina State University</i> ; M.A. Gabr, Ph.D., P.E., F.ASCE, D.GE, <i>North Carolina State University</i>	Use of Tactile Pressure Sensors to Measure Lateral Pressures at the Face of Geosynthetic Reinforced Soil , Jennifer E. Nicks, Ph.D., P.E., M.ASCE, <i>Federal Highway Administration</i> ; Michael T. Adams, M.ASCE, <i>Federal Highway Administration</i> ; Jan Li, <i>ESCINC</i> Excessive Deformation of a Mechanically Stabilized Earth Wall Embankment Constructed on Soft Ground , Stanley R. Boyle, Ph.D., P.E., M.ASCE, <i>Shannon & Wilson, Inc.</i>	Field Performance of Reinforced Dunes for Improving Coastal Resilience , Brian Maggi, P.E., M.ASCE, <i>U.S. Coast Guard Academy</i> ; Christopher Baxter, Ph.D., P.E., M.ASCE, <i>University of Rhode Island</i> ; Annette Grilli, Ph.D., <i>University of Rhode Island</i> ; Stephen Licht, Ph.D., <i>University of Rhode Island</i> ; Paolo Stegagno, Ph.D., <i>University of Rhode Island</i> Observation of Piping Erosion Initiation in a Centrifuge Model , William Ovale-Villamil, M.Sc., S.M.ASCE, <i>University of South Carolina</i> ; Inthuorn Sasanakul, Ph.D., P.E., A.M.ASCE, <i>University of South Carolina</i>	Soil Freezing and Its Effects on Pavement Engineering by Random Finite Element Simulation , Dong, Ph.D., S.M.ASCE, <i>Case Western Reserve University</i> ; Xiong Yu, Ph.D., P.E., F.ASCE, <i>Case Western Reserve University</i> Impact of Stabilization of Expansive Clay with Corex Slag and Lime , Radha J. Gonawala, S. V. <i>National Institute of Technology</i> ; Rakesh Kumar, Ph.D., S. V. <i>National Institute of Technology</i> ; Krupesh A. Chauhan, Ph.D., S. V. <i>National Institute of Technology</i>
3:00 – 3:30 p.m.	Afternoon Networking Break, Exhibit Hall E						
3:30 – 5:00 p.m.	Panel Session: 7-Year Itch: What Have We Learned from Hurricane Sandy, Room 126A						
3:30 – 5:30 p.m.	Poster Session II, Exhibit Hall E						
5:30 – 6:00 p.m.	Professional and Student Competition Awards Presentation, Terrace Ballroom IV						
6:00 – 7:00 p.m.	Karl Terzaghi Award Lecture, Terrace Ballroom IV						
7:30 – 10:00 p.m.	Terzaghi Dinner (Invitation Only), Loews Philadelphia Hotel, Lescaze Room, 33rd Floor						

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the **Delaware Valley G-I Chapter**. Then stop by the **ASCE Bookstore** to see what's new and to build your professional library. Learn more about professional certification from the **Academy of Geo-Professionals (AGP)**, and how it can benefit you. **ASCE Member Services** will also be available: join ASCE and G-I, manage your

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Computational Geotechnics

PB47 | Mesh Size Sensitivity and Effect of Perturbation Intensity on coupled Undrained Instability Analysis in Sands, Debayan Bhattacharya, B.E., S.M.ASCE, *Indian Institute of Technology Gandhinagar*; Amit Prashant, Ph.D., *Indian Institute of Technology Gandhinagar*

PB48 | Numerical Modeling of Structural Backfills for Transportation Infrastructure, Meysam Mashayekhi, A.M.ASCE, *University of Delaware*; Victor N. Kaliakin, Ph.D., M.ASCE, *University of Delaware*; Christopher L. Meehan, F.ASCE, *University of Delaware*; Michael T. Adams, M.ASCE, *Turner-Fairbank Highway Research Center, Federal Highway Administration*; Jennifer E. Nicks, M.ASCE, *Turner-Fairbank Highway Research Center, Federal Highway Administration*

PB49 | Influence of Particle Rolling and Rotation on the Shearing Response of Clean Sand, Nick Barnett, *University of South Australia*; Md. Mizanur Rahman, *University of South Australia*; Md. Rajibul Karim, *University of South Australia*; Hoang Bao Khoi Nguyen, *University of South Australia*

PB50 | The Phase Transformation under Undrained and Drained Triaxial Condition by the Discrete Element Method, Hoang Bao Khoi Nguyen, Ph.D., *University of South Australia*; Md. Mizanur Rahman, Ph.D., *University of South Australia*; Md. Rajibul Karim, Ph.D., *University of South Australia*

PB51 | Models for Estimation of Moduli of Unbound Materials with Lightweight Deflectometer, Aria Fathi, M.SCE, S.M.ASCE, *The University of Texas at El Paso*; Cesar Tirado, Ph.D., *Center for Transportation Infrastructure Systems (CTIS), The University of Texas at El Paso*; Mehran Mazari, Ph.D., A.M.ASCE, *California State University Los Angeles*; Soheil Nazarian, Ph.D., P.E., F.ASCE, *Center for Transportation Infrastructure Systems (CTIS), The University of Texas at El Paso*

PB52 | Performance of Bounding Surface Constitutive Models in Predicting Cyclic Behavior of Low-Plasticity Fine-Grained Soils, Mohammad Eslami, Ph.D., *University of California Los Angeles*; Mohammad Zarrabi, *Polytechnique Montréal*; Samuel Ynesta, Ph.D., *Polytechnique Montréal*

PB53 | Numerical Analysis of Radial Consolidation with Discharge Capacity Reduction Using Finite Strain Theory, Ba-Phu Nguyen IV, *Pukyong National University*; Yun-Tae Kim, *Pukyong National University*

PB54 | Numerical Analysis on Feasibility of Thermally Induced Pore Fluid Flow in Saturated Soils, Mohammadreza Mir Tamizdoust, S.M.ASCE, *University of Louisville*; Omid Ghasemi-Fare, A.M.ASCE, *University of Louisville*

PB55 | Modeling the Impact Force from a Dry Granular Flow Using Smoothed Particle Hydrodynamics Method, Bahman Sheikh, MSc, Ph.D. Candidate, *Pennsylvania State University*; Tong Qiu, Ph.D., P.E., *Pennsylvania State University*

PB56 | Nonlinear Dynamic Analysis of Track Embankments for High-Speed Trains, Negin Yousefpour, Ph.D., P.E., *Arup*; Eden Almog, *Arup*

PB57 | Numerical Insight into the Geotechnical Mechanisms Triggering Failure at the Winter Park Sinkhole in Florida, Moutaz Hesham Soliman, *University of Central Florida*; Luis Arboleda-Monsalve, Ph.D., *University of Central Florida*; Boo Hyun Nam, Ph.D., *University of Central Florida*

PB58 | Bearing Capacity of a Strip Footing Situated on Reinforced Cohesionless Soil Slope Using Non-Associated Flow Rule, Koushik Halder, M.E., *Indian Institute of Technology Kharagpur*; Debarghya Chakraborty, Ph.D., *Indian Institute of Technology Kharagpur*

PB59 | Flat Plate Dilatometer and Finite Element Analysis in Evaluation of Settlement Induced Effects on Utilities, Dylan Sky Brancato, M.S., P.E., *Parsons*; Edmund Gregory McNulty, Ph.D., P.E., P.G., *Parsons*; Bill Little, P.E., *Parsons*; Timothy M. Williams, P.E., *Walsh Group*

PB60 | Probabilistic Analysis of a MSE Wall Considering Spatial Variability of Soil Properties, Sina Javankhoshdal, Ph.D., EIT, *Rocscience Inc.*; Brigid Cami, B.Sc., *Rocscience Inc.*; Thamer Yacoub, Ph.D., *Rocscience Inc.*; Richard Bithurst, P.Eng., Ph.D., FEIC, FCAE, *Geo-Engineering Center at Queen's-RMC*

PB61 | Three-Dimensional Finite Element Analysis of Reinforced Concrete Box Culverts Using Infinite Elements, Christy L. Bugher, S.M.ASCE, *University of Delaware*; Kalehiwot Nega Manahiloh, Ph.D., P.E., M.ASCE, *University of Delaware*; Victor N. Kaliakin, Ph.D., M.ASCE, *University of Delaware*; Harry W. Shenton III, Ph.D., P.E., M.ASCE, *University of Delaware*

Earth Retaining Structures: Top-Down Construction

PB86 | Three-Dimensional Finite Element Analysis of Soil-Nailed Walls: Effects of Wall Configuration and Soil Properties, Amr M. Mamon, *Cairo University*; Manal A. Salem, Ph.D., *Cairo University*; Hani A. Lofii, Ph.D., *Cairo University*

PB91 | Investigating Nonlinear and Time-Dependent Response of Concrete on the Performance of Urban Cofferdams, A. Felipe Uribe-Henao, S.M.ASCE, *University of Central Florida*; Luis G. Arboleda-Monsalve, Ph.D., M.ASCE, *University of Central Florida*; David G. Zapata-Medina, Ph.D., P.E., *Universidad Nacional de Colombia, Sede Medellin*

Earth Retaining Structures: Bottom-Up Construction

PB100 | Supporting Community Health: Foundations and Excavation Support for Brooklyn Methodist Hospital's Center for Community Healthcare, Samuel W. Singer, M.S., P.E., M.ASCE, *Langan*; Kenneth A. Huber, M.S., P.E., LEED AP, *Langan*

PB92 | Passive Force-Deflection Curves for Controlled Low-Strength Material (CLSM) and Lightweight Cellular Concrete (LCC), Kyle M. Rollins, Ph.D., *Brigham Young University*; Rebecca Black, M.ASCE, *Brigham Young University*; Kevin Wagstaff, M.ASCE, *Wagstaff Crane*

PB93 | Low-Density Cellular Concrete in MSE Structures with Steel Strip Reinforcements – Design and Construction Considerations and Case Histories, Nicolas Deni, P.E., M.ASCE, *The Reinforced Earth Company*; Robert A. Gladstone, P.E., M.ASCE, *Association for Mechanically Stabilized Earth*

PB94 | Deployment of the Geosynthetic Reinforced Soil (GRS) Integrated Bridge System (IBS) From 2011 to 2017, Brian H. Zelenko, P.E., M.ASCE, *WSP USA*; Daniel Alzamora, *Federal Highway Administration*; Jennifer E. Nicks, Ph.D., P.E., *Federal Highway Administration*

PB95 | Replacement of the Brooklyn Queens Expressway (BQE) Connector for the Kosciuszko Bridge in New York, New York, Paul B. Pizzimenti, P.E., *Haley & Aldrich*; Edward M. Zamiskie, P.E., *Haley & Aldrich*; Matthew D. Riegel, P.E., Ph.D., *HNTB*; Britain Materek, P.E., *HNTB*

PB96 | Construction and Monitoring of Alabama's First Geosynthetic Reinforced Soil-Integrated Bridge System, Randall Jonathan Hogan, S.M.ASCE, *Auburn University*; Robert Pirando, P.E., *Marshall County Commission*; J. Brian Anderson, Ph.D., P.E., M.ASCE, *Auburn University*; Jack Montgomery, Ph.D., P.E., A.M.ASCE, *Auburn University*

PB97 | Design Optimization of Flood Walls Using Evolutionary Algorithms, Siavash Sajedi, Ph.D., *AECOM*; Pooya Allahverdizadeh Sheykhlou, Ph.D., P.E., *AECOM*; Amanda Lopez, P.E., *AECOM*

PB98 | Everything but the Kitchen Sink: Use of Multiple Foundation Types to Allow for Construction on a Boston Hillside, Michael J. Weaver, P.E., *Haley & Aldrich*

PB99 | Using Numerical Model To Evaluate Performance of Geogrid-Reinforced Slope with High Embankment on Top, Hua Xu, Ph.D., *Southwest Jiaotong University*; Xin Ren, *Southwest Jiaotong University*; Jiannan Chen, Ph.D., A.M.ASCE, *Southwest Jiaotong University*; Lei Xia, *Sichuan Surveying & Design Institute of Transportation*; Ziyun Cheng, *Sichuan Surveying & Design Institute of Transportation*

Geoenvironmental Engineering

PB67 | Evaluation of Field Scale Unsaturated Soil Behavior of Landfill Cover through Geophysical Testing and Instrumentation, Md. Jobair Bin Alam, Ph.D., *University of Texas at Arlington*; Md. Sahadat Hossain, Ph.D., P.E., *The University of Texas at Arlington*; Linkan Sarkar, *The University of Texas at Arlington*; Naima Rahman, Ph.D.

PB68 | Dialysis Method to Measure Diffusion in Sodium and Enhanced Bentonites, Shan Tong, M.S., *Villanova University*; Kristin M. Sample-Lord, Ph.D., P.E., M.ASCE, *Villanova University*; Gretchen L. Bohnhoff, Ph.D., P.E., M.ASCE, *University of Wisconsin-Platteville*; Andrew B. Balken, *University of Wisconsin-Platteville*; Mustaki Ahmed, *Villanova University*

PB72 | Bioremediation of High Saline Soil through the Home-Made Collective Microorganisms, Md. Azizul Moqsd, Ph.D., M.ASCE, *University of California Berkeley*; Kenichi Soga, Ph.D., *UC Berkeley*; M. Azizul Moqsd, Ph.D., A.M.ASCE

PB73 | Mechanism Study of Borehole Instability in Carbonate Reservoir through Discrete Element Modeling, Chao Zeng, *Missouri University of Science and Technology*; Wen Deng, *Missouri University of Science and Technology*

PB75 | Stabilization of Hazardous Solid Waste Landfill on Sloping Ground with Variable Base Inclination, Abinash Mahanta, M.E., M.IGS, *Indian Institute of Technology Delhi*; Riya Bhowmik, M.E., M.IGS, *Indian Institute of Technology Delhi*; Manoj Datta, Ph.D., M.IGS, *Indian Institute of Technology Delhi*

PB76 | Monitoring Seasonal Variation of Soil Hydraulic Conductivity for an Evapotranspiration Cover System, Lucas Hoyos, B.S.C.E., *University of Texas at Arlington*; Md. Jobair Bin Alam, Ph.D., *University of Texas at Arlington*; Md. Sahadat Hossain, Ph.D., P.E., M.ASCE, *University of Texas at Arlington*; Brenda A. Haney, P.E., *City of Irving*

PB78 | Velocity and Drag Force Distribution of Fluid Flow in Mono- and Binary- Sized Particulate Porous Media, Bahman Sheikh, M.S., Ph.D. Candidate, *Pennsylvania State University*; Tong Qiu, Ph.D., *Pennsylvania State University*

PB79 | Field Hydrologic Performance of Water Balance Cover in North Texas, Md Jobair Bin Alam, Ph.D., *University of Texas at Arlington*; Brett DeVries, Ph.D., P.E., *SCS Engineers*; Md Sahadat Hossain, Ph.D. P.E., *University of Texas at Arlington*; Naima Rahman, Ph.D., *SCS Engineers*

PB80 | Migration of Aqueous Benzene through a Subsurface Concrete Utility Pipe under Saturated Soil Conditions, Sultan Alhomain, *North Carolina State University*; Payam Hosseini, *North Carolina State University*; Mohammed Gabr, Ph.D., P.E., F.ASCE, D.GE., *North Carolina State University*; Mohammad Pour-Ghaz, Ph.D., *North Carolina State University*; Detlef Knappe, Ph.D., *North Carolina State University*

PB81 | Life Cycle Analysis as a Tool to Assess the Sustainability of Waste Management Practices in Bangalore City, Sugghosh P., M.Tech, *Indian Institute of Science*; Anusree N. B.E.; Sivakumar Babu G. L., Ph.D., FIE, ACCE, ASCE, IGS, IRC, IGS, KGC, *Indian Institute of Science*

PB82 | Effect of Moisture Content on CO2 Sequestration by BOF Slag in Landfill Cover, Jyoti K Chetri, S.M.ASCE, *University of Illinois at Chicago*; Krishna R. Reddy, Ph.D., P.E., F.ASCE, *University of Illinois at Chicago*; Dennis G. Grubb, Ph.D., P.E., *Phoenix Services, LLC*

PB83 | Synthesis of Friedel's Salt for Application in Halide Sequestration using Paste Encapsulation Technology, Abhisek V. Manikonda, M.S., S.M.ASCE, *University of North Carolina at Charlotte*; Vincent O. Ogunro, Ph.D., A.M.ASCE, *University of North Carolina at Charlotte*; Kirk M. Ellison, M.S., *Electric Power Research Institute*; Keith Moo-Young, Ph.D., F.ASCE, *Washington State University*

PB62 | Geophysical Engineering to Identify Seepage Channels in the Hager Slough Levee, Md Zahidul Karim, S.M.ASCE, *Kansas State University*; Stacey E. Tucker-Kulesza, Ph.D., P.E., M.ASCE, *Kansas State University*; Cassandra Rutherford, Ph.D., P.E., M.ASCE, *Iowa State University*; Michelle L. Bernhardt-Barry, Ph.D., P.E., M.ASCE, *University of Arkansas*

Geotechnics of Soil Erosion

PB87 | Using Case Studies of Bridge Scour in Rhode Island to Evaluate Simplified Scour Equations, Aaron S. Bradshaw, Ph.D., P.E., *University of Rhode Island*; Wendy K. Laurent, *Taylor Engineering, Inc.*; Christopher D.P. Baxter, Ph.D., P.E., *University of Rhode Island*; M. Reza Hashemi, Ph.D., *University of Rhode Island*; Paul Sauco, P.E., *University of Rhode Island*; Monique LaFrance Bartley, *University of Rhode Island*; Brian Caccioppoli, *University of Rhode Island*; John King, *University of Rhode Island*

PB88 | Tracking Piping Phenomenon in Earth Dams, Fadi Saliba, *Notre Dame University-Louaize*; Ronald Bounassar, *Notre Dame University-Louaize*; Najj Khoury, Ph.D., P.E., *Notre Dame University-Louaize*; Yara Maalouf, *Notre Dame University-Louaize*

PB89 | Erosion Mechanism of Claypan Soils in Southeastern Kansas, Mark A Mathis II, S.M.ASCE, *Kansas State University*; Tri V. Tran, S.M.ASCE, *Kansas State University*; Stacey E. Tucker-Kulesza, Ph.D., M.ASCE, *Kansas State University*; Gretchen F. Sassenrath, Ph.D., *Kansas State University*

PB90 | Experimental and Analytical Studies on the Root Reinforcement Effect of a Grass Species, *Spartina alterniflora*, Sujana Baral, M.S., *Louisiana Tech University*; Jay Xingran Wang, Ph.D., P.E., *Louisiana Tech University*; Shaourav Alam, Ph.D., *Louisiana Tech University*; William Brown Patterson, Ph.D., *Louisiana Tech University*

Pavements

PB17 | Development of a Strength Prediction Model for Recycled Base Materials with Soil Intrusion, Prabesh Bhandari, *The University of Texas at Arlington*; Sita Timsina, *ECS Southwest, LLP-Dallas*; Asif Ahmed, Ph.D., E.I.T., *State University of New York (SUNY) Polytechnic Institute*; Sahadat Hossain, Ph.D., P.E., *The University of Texas at Arlington*; Boon Thian, *Texas Department of Transportation*

PB12 | Enhanced Lateral Drainage Geotextile to Mitigate the Effects of Moisture Migration from a High Water Table, Jorge Zornberg, Ph.D., P.E., F.ASCE, *The University of Texas at Austin*; Anthony El Hachem, M.S., *The University of Texas at Austin*

PB16 | Subgrade Soil Stabilization Using Low-Quality Recycled Concrete Aggregate, Masoumeh Tavakol, Ph.D. Candidate, S.M.ASCE, *Kansas State University*; Mustaque Hossain, Ph.D., P.E., F.ASCE, *Kansas State University*; Stacey E. Tucker-Kulesza, Ph.D., P.E., M.ASCE, *Kansas State University*

PB17 | Mechanical Concrete for Enhancing the Properties of Pavement Base/Subbase, PV Vijay, Ph.D., P.E., M.ASCE, *West Virginia University*; Justin Smith, *West Virginia University*

PB21 | Parametric Study of Modified Subgrade Reaction Model Using Artificial Neural Network Approach, Sajib Saha, Ph.D., *Texas A&M Transportation Institute*; Fan Gu, Ph.D., A.M.ASCE, *National Center for Asphalt Technology, Auburn University*; Xue Luo, Ph.D., A.M.ASCE, *Zhejiang University*; Robert L. Lytton, Ph.D., P.E., F.ASCE, *Texas A&M University*

PB22 | Sustainable Design of Rigid Pavements Using a Hybrid GP and OLS Method, Abbasali TaghaviGhalesari, S.M.ASCE, *University of Texas at El Paso*; Carlos M. Chang Albitres, Ph.D., P.E., *University of Texas at El Paso*

PB23 | Development of the Virtual Load Method by Applying the Inverse Theory for the Analysis of Geosynthetic-Reinforced Pavement on Expansive Soils, Debojit Sarker, B.Sc., *Louisiana Tech University*; Jay X. Wang, Ph.D., P.E., M.ASCE, *Louisiana Tech University*; Md Adnan Khan, Ph.D., M.ASCE, *Shannon & Wilson, Inc.*

PB24 | Use of Pervious Concrete in Developing Countries for Stormwater Management, Louis Junior Saad, *Notre Dame University-Louaize*; Najj Khoury, Ph.D., P.E., *Notre Dame University-Louaize*; Charles Saad, Ph.D., *Notre Dame University-Louaize*

PB25 | Case Study of Military Airfields Emphasizing Asset Management, Rehabilitation, and Implementation of New Technologies, Thomas M. Synovec, P.E., M.ASCE, *Mississippi State University*; Isaac L. Howard, Ph.D., P.E., F.ASCE, *Mississippi State University*; Lucy P. Priddy, Ph.D., P.E., M.ASCE, *U.S. Army Engineer Research and Development Center*

PB26 | Effect of Fine Clay Particles on the Strength Characterization of Cement Treated Flex-Base Materials, Sita Timsina, ECS Southwest, LLP-Dallas; Prabesh Bhandari, *The University of Texas at Arlington*; Nur Basit Zaman, *The University of Texas at Arlington*; Asif Ahmed, Ph.D., E.I.T., *State University of New York (SUNY) Polytechnic Institute*; Sahadat Hossain, Ph.D., P.E., *The University of Texas at Arlington*; Boon Thian, *Texas Department of Transportation*

PB27 | Mix Design of Roller Compacted Concrete Pavement Using Steel Slag By-Products, Charbel Khoury, Ph.D., P.E., M.ASCE, *KCI Technologies, Inc.*; Kofi Acheampong, Ph.D., P.E., ENV SP, M.ASCE, *KCI Technologies, Inc.*; Kwabena Ofotri-Awuah, P.E., D.GE, M.ASCE, *KCI Technologies, Inc.*

PB28 | Cyclic Triaxial Tests on Crushed Limestone for Base Layers, Pradiip Adhikari, *SIUE*; Abdolreza Osouli, Ph.D., P.E., M.ASCE, *SIUE*

Risk Assessment and Management

PB39 | Quantitative Coseismic and Precipitation-Induced Landslide Risk Mapping for the Country of Lebanon, William Pollock, *University of Washington*; Joseph Wartman, *University of Washington*; Grace Abou-Jaoude, *Lebanese American University*; Alex Grant, *U.S. Geological Survey*

PB40 | An Adaptive Kriging-Based Approach with Weakly Stationary Random Fields for Soil Slope Reliability Analysis, Mehrzad Rahimi, *The Ohio State University*; Zeyu Wang, *The Ohio State University*; Abdollah Shafieezadeh, Ph.D., *The Ohio State University*; Dylan Wood, *The Ohio State University*; Ethan J. Kubatko, Ph.D., *The Ohio State University*

PB42 | Excavation-Induced Structural Responses Due to Inherent Spatial Variability of Soils, Zhe Luo, Ph.D., P.E., M.ASCE, *Tongji University*; Biao Hu, Ph.D., *Tongji University*; Youwen Wang, M.Sc., *Tongji University*

PB43 | Fuzzy Reliability Analysis for Elastic Settlement of Surface Footing, Rajarshi Pramanik, M.E., *Indian Institute of Technology Kharagpur*; Dilip Kumar Baidya, Ph.D., *Indian Institute of Technology Kharagpur*; Nirjhar Dharg, Ph.D., *Indian Institute of Technology Kharagpur*

Soil Improvement: Case Histories

PB06 | The Ground Improvement Toolbox for Liquefaction Hazard Mitigation: Three Case Histories, Tanner Blackburn, Ph.D., P.E., M.ASCE, *Hayward Baker, Inc.*; Jeffrey R. Hill, P.E., M.ASCE, *Hayward Baker, Inc.*

PB07 | Experimental Study and Evaluation on Surface Grouting in Shallow-Buried Section of Karst Tunnels, Hua Xu, *Southwest Jiaotong University*; Peng Zhang, *Southwest Jiaotong University*; Jiannan Chen, A.M.ASCE, *Southwest Jiaotong University*; Runfang Sun, *Southwest Jiaotong University*; Yiwei Liu, *Southwest Jiaotong University*

PB08 | Construction of Citizen's Drop-Off Ramp in South Louisiana by Soil Surcharging, Jonathan E. Fourrier, M.Sc., P.E., *Fourrier & de Abreu Engineers, L.L.C.*; Ricardo C. de Abreu, Ph.D., P.E., *Fourrier & de Abreu Engineers, L.L.C.*

PB09 | Ground Modification Techniques for the Christina River Bridge Approaches, Eric M. Klein, P.E., D.GE, F.ASCE, *RK&K, LLP*; Bibek B. Shrestha, P.E., *RK&K, LLP*

Soil Improvement: Biopolymers

PB01 | Examining the Behavior of Compacted Soil-Biochar Specimens, Renee S. Lamprinakos, S.M.ASCE, *University of Delaware*; Kalehiwot Negu Manahiloh, Ph.D., P.E., M.ASCE, *University of Delaware*

PB02 | Strengthening of Dune Sand with Sodium Alginate Biopolymer, Hadi Fatehi, M.Sc, *Isfahan University of Technology*; Maysam Bahmani, *Shahid Beheshti University*; Ali Noorzad, *Shahid Beheshti University*

PB10 | Unconfined Compressive Strength of Mine Tailings Amended with Fly Ash, Amin Benjamin Ghorbanpour, P.E., *Golder Associates*; Xinbao Yu, Ph.D., P.E., *University of Texas at Arlington*

Soil Improvement: MICP

PB13 | The Effect of Chemical Concentration on the Strength and Erodibility of MICP Treated Sands, Pegah Ghasemi, *North Carolina State University*; Atefeh Zamani, *North Carolina State University*; Brina M. Montoya, *North Carolina State University*

PB14 | Leaching Assessment of MICP-treated Coal Combustion Products in Roadways Embankment, Junke Zhang, *Jackson State University*; Kejun Wen, Ph.D., *Jackson State University*; Lin Li, Ph.D., P.E., F.ASCE, *Tennessee State University*

PB15 | Simulated Implementation Approach for Microbially Induced Carbonate Precipitation Improvement of Soil adjacent to Piles, Juning Do, S.M.ASCE, *North Carolina State University*; Brina M. Montoya, Ph.D., P.E., M.ASCE, *North Carolina State University*; Mohammed A. Gabr, Ph.D., P.E., D.GE., F.ASCE, *North Carolina State University*

Soil Improvement: Fiber Reinforcement and Soil Stabilization

PB18 | Comparative Study of Sisal and PVA Fiber for Soil Improvement, Anil Kumar Sharma, Ph.D., *Amrita Vishwa Vidyapeetham*; Swetha Prasannan, *Amrita Vishwa Vidyapeetham*; Sreevalsa Kolathayar, Ph.D., *Amrita Vishwa Vidyapeetham*

PB19 | Strength Characterization of Expansive Soil Treated with Phosphogypsum and Crumb Waste Rubber, Babu R. Dayakar, *KITS Divili*; Raviteja KVNS II, Ph.D., A.M.ASCE, *Indian Institute of Technology Hyderabad*; Prasad LNVN, M.Tech., *KITS Divili*

PB20 | Stress- Strain Behaviour of Steel Fiber-Reinforced Sand, Jagadanand Jha, *Muzaffarpur Institute of Technology*; Kulbir Singh Gill, Ph.D., *Guru Nanak Dev Engineering College, Ludhiana*; Sanjay Kumar Shukla, Ph.D., *Edith Cowan University*; Anil Kumar Choudhary, Ph.D. NIT, *Jamshedpur*

Underground Engineering and Construction

PB29 | Through-Soil Wireless Communication System for Embedded Geotechnical Instrumentation, Omar Baltaji, MCE, Ph.D. Candidate, *University of Illinois at Urbana Champaign*; Sijung Yang, M.Eng, Ph.D.Candidate, *University of Illinois at Urbana Champaign*; Youssef M.A. Hashash, Ph.D., P.E., F.ASCE, *University of Illinois at Urbana Champaign*; Andrew Singer, Ph.D, *University of Illinois at Urbana Champaign*

3:30 – 5:30 p.m., Exhibit Hall E

PB30 | Time-History Analysis of Earth Pressure Test on Soil Arching Effect Caused by Deep-Buried Tunneling in Soft Soil, Liu Shujia, Ph.D., *Shanghai SMI Water (Group) CO., LTD*; Bai Tinghui II, P.E., *Shanghai Water Authority*; Liao Shaoming III, P.E., *Tongji University*; Shen Pangyong IV, P.E., *Shanghai SMI Water (Group) CO., LTD*; Gu Yun V, P.E., *Shanghai SMI Water (Group) CO., LTD*; Bai Zhanwei, *Shanghai SMI Water (Group) CO., LTD*

PB32 | Effect of Segregation on the Geotechnical Properties Of Hydraulic Backfill, Jean Békét Dalcé Master, *École Polytechnique de Montréal*; Li Li, Ph.D., *École Polytechnique de Montréal*; Pengyu Yang, Ph.D., *École Polytechnique de Montréal*

PB33 | Correlating EPB Chengdu Metro Settlement Data with Analysis Predictions in Sandy Cobble Stratum, Xin Liao, Ph.D., *Southwest Jiaotong University*; Qingfeng Wang, *Southwest Jiaotong University*; Liang Feng, Ph.D., *University of Florence*; Xiyong Wu, Ph.D., *Southwest Jiaotong University*; Deping Guo, *Sichuan Railway Investment Group Co., LTD*; Yingwei Xi, *Sichuan Environmental Monitoring Center*; Jiannan Chen, Ph.D., *Southwest Jiaotong University*

PB34 | A Numerical Investigation of SSCB Analysis and the Possibility of Applying Arching Inducement Techniques, Islam Mamdouh Ezz, *Cairo university*; Sherif Adel Akl, Ph.D., *Cairo University*; Mohamed El-Kholy III, *Cairo university*

PB35 | Monitoring-Assisted Large-Diameter Shield Tunneling Control in Soft Ground: A Case Study of Bund Tunnel Project, Xuehui Zhang, Ph.D., M.Eng, M.ASCE, *Tongji University*; Xi Jiang, Ph.D., M.Eng, *Tongji University*; Wei Chen, *Tongji University*; Dilu Xu, *Tongji University*; Guodong Cai, M.Eng, *SGIDI Engineering Consulting(Group) Co., Ltd*; Yun Bai, Ph.D., *Tongji University*

PB36 | Overview of Typical Excavation Failures in China, Ye Lu, Ph.D., A.M.ASCE, *Shanghai University*; Yong Tan, Ph.D., A.M.ASCE, *Tongji University*

Unsaturated Soils

PB101 | A Procedure for Incorporating Climatic and Water Table Data in the Geotechnical Design of Driven Pile Subjected to Axial Load, Vahidreza Mahmoudabadi, *Clemson University*; Nadarajah Ravichandran, Ph.D., *Clemson University*

PB102 | Effect of Geotechnical Parameters on the Percolation Performance of an Established Rain Garden in Pennsylvania, Wessam Mohammed, *Villanova University*; Andrea L. Welker, Ph.D., P.E., M.ASCE, *Villanova University*; James Press, *Villanova University*

PB103 | Evaluation of Bimodal Water Retention Characteristics for Hydrating Chromium Ore Processing Residue (COPR), Mostafa Afzalani, *University of Nebraska-Lincoln*; Jongwan Eun, Ph.D., P.E., *University of Nebraska-Lincoln*; James Tinjum, *University of Wisconsin-Madison*

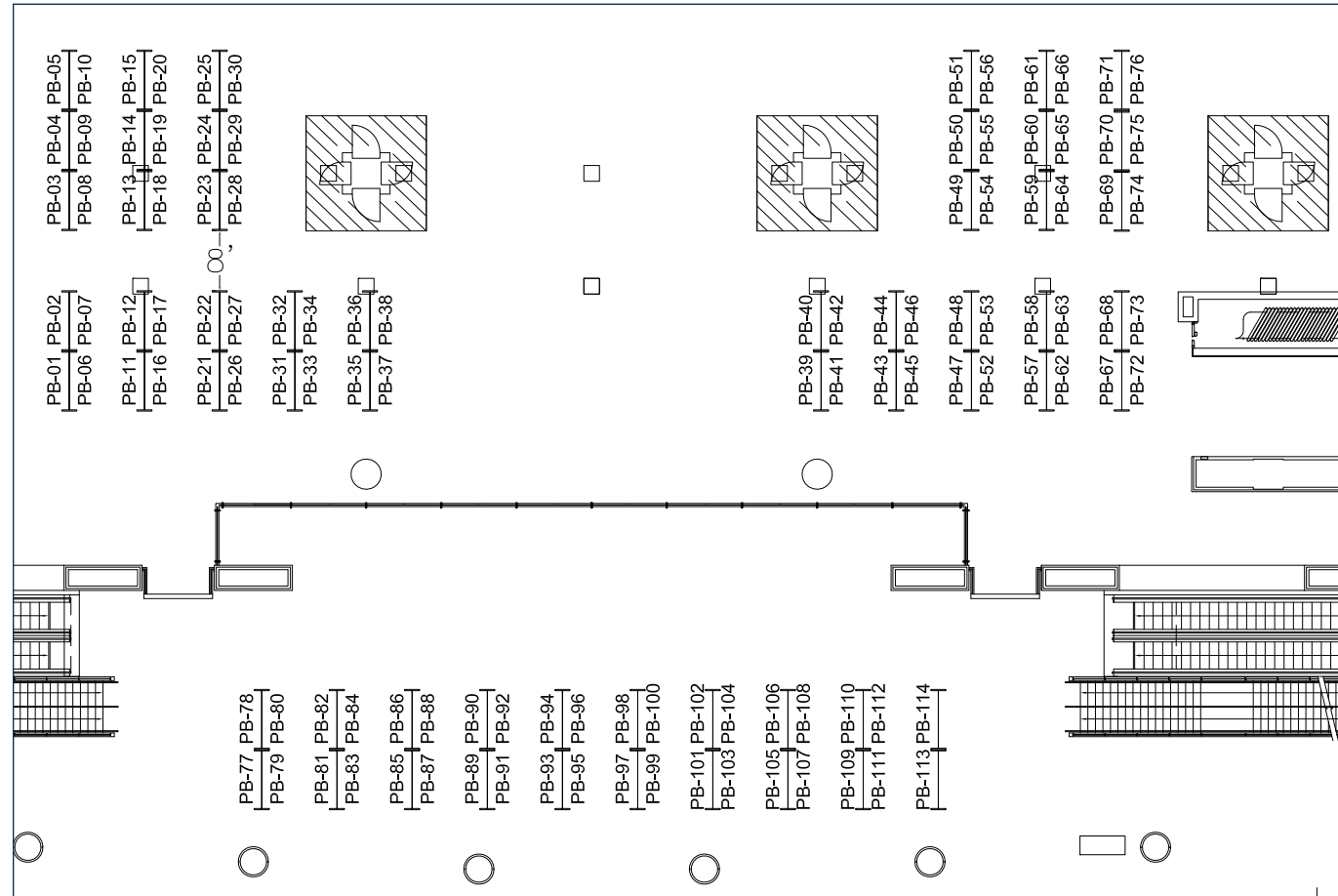
PB104 | Numerical Investigation of a Saturated/Unsaturated Soil-Atmosphere Model, Chuang Lin, *Missouri University of Science and Technology*; Xiong Zhang, Ph.D., P.E., *Missouri University of Science and Technology*

PB105 | Measurement of Thermal Conductivity and Suction for Sands Using a Modified Hanging Column Device, Xuelin Wang, *University of Texas at Arlington*; Xinbao Yu, Ph.D., P.E., *University of Texas at Arlington*; Nice Kaneza, *University of Texas at Arlington*; Shi He, *University of Texas at Arlington*

PB106 | A Bounding Surface Based Constitutive Model for Unsaturated Granular Soils, Mehdi Kadivar, S.M.ASCE, *University of Delaware*; Kalehiwat Nega Manahiloh, Ph.D., P.E., M.ASCE, *University of Delaware*; Victor N. Kaliakin, Ph.D., M.ASCE, *University of Delaware*

PB107 | Stability Analysis of an Unsaturated Silty Slope under Nonisothermal Conditions, Sannith Kumar Thota, *Mississippi State University*; Toan Duc Cao, *Mississippi State University*; Farshid Vahedifard, *Mississippi State University*; Ehsan Ghazanfari, *University of Vermont*

PB108 | Shear-Induced Matric Suction in Unsaturated Clayey Sand during Constant Water Content Triaxial Tests, Muwafaq A. Awad, *University of South Carolina*; Inthuorn Sasanakul, Ph.D., P.E., *University of South Carolina*



8:00 – 9:30 a.m.	Geo-PIT: Powerful, Informative Talks on Geo-Topics , <i>Terrace Ballroom IV</i>				
9:30 – 10:00 a.m.	Morning Networking Break , <i>Exhibit Hall E</i>				
10:00 – 11:00 a.m.	Special Session: Robert M. Koerner Lecture Lessons Learned: An Adventure in 4 Decades of Geosynthetics Engineering , <i>Terrace Ballroom III</i>				
10:00 – 11:30 a.m.	Panel Session: Changing the Paradigm for Large Landslides: Forecasting Time-to-Failure , <i>Room 126A</i>				
10:00 – 11:30 a.m.	Technical Sessions				
Track A Room 122A	Track B Room 125	Track C Room 123	Track D Room 124	Track F Room 122B	
Deep Foundations: Special Topics Moderators: Joseph Thomas Coe, Jr., P.E., Matteo Montesì, P.E., M.ASCE	Underground Engineering and Construction Moderators: John S. McCartney, Ph.D., P.E., F.ASCE; Sotirios Vardakos, Ph.D., C.Eng, M.ASCE	Risk Assessment and Management Moderators: Haitham M. Dawood, Ph.D., P.E., M.ASCE; Kallol Seit, Ph.D., EIT, A.M.ASCE	Education for Geotechnical Engineering Moderators: Andrea L. Welker, P.E., M.ASCE; Patricia M. Gallagher, P.E.	Geoenvironmental Engineering Moderators: Kristin Sample-Lord, P.E., M.ASCE; Ehsan Ghazanfarì, Ph.D., P.E. M.ASCE	
Verification Load Testing of Micropiles Under Combined Axial and Lateral Forces , John Montgomery Schultz, P.E., G.E., M.ASCE, <i>Petra Geosciences Inc.</i> ; Siamak Jafroudi, Ph.D., P.E., G.E., D.GE., F.ASCE, <i>Petra Geosciences Inc.</i> ; Thang Van Nguyen, P.E. M.ASCE, <i>Hayward Baker Inc.</i>	Shallow Tunnel Not Aligned to the Geostatic Principal Stress Directions , Osvaldo P M Vitali, M.S., Civil Engineer, <i>Purdue University</i> ; Tarcisio B. Celestino, Ph.D., <i>University of Sao Paulo</i> ; Antonio Bobet, Ph.D., <i>Purdue University</i>	Landslide Susceptibility Updating Considers Real-Time Observations , Haojie Wang, BSc, <i>The Hong Kong University of Science and Technology</i> ; Limin Zhang, Ph.D., F.ASCE, <i>The Hong Kong University of Science and Technology</i>	Developing An Engineering Geology Field Trip To Enhance Student Learning: A Case Study , Patricia M Gallagher, Ph.D., P.E., <i>Drexel University</i> ; Walter G. Yerik, <i>Drexel University</i> ; Philip S. Getty, P.G., <i>Boucher & James Inc.</i> ; Kristin M. Sample-Lord, Ph.D., P.E., <i>Villanova University</i> ; Loyc Vanderkluyens, Ph.D., <i>Drexel University</i> ; Robert H. Swan, Jr., <i>Drexel University</i>	Case History of an Exhumed Landfill Double Liner System , George Robert Koerner, Ph.D., P.E., CQA, M.ASCE, <i>Geosynthetic Institute (GSI)</i> ; Robert M. Koerner, Ph.D., P.E., F.ASCE, <i>Drexel University</i>	
Emergency Bridge Abutment Repair with Pressed-in Pipe Piles , Takefumi Takuma, A.M.ASCE, <i>Giken America Corp.</i> ; Hiroyuki Nishimura, <i>Japan Press-in Association</i> ; Masashi Nagano, <i>Giken America Corp.</i>	Photogrammetry for the Characterization of Rock Masses Two Case Histories for Slopes and Caverns , Fulvio Tonon, Ph.D., P.E., M.ASCE, <i>Tanon USA: Engineering, Measurements, and Testing, LLC</i>	Geo-Hydro Forensic Investigation of an Earthen Dam Failure , Christopher J. Brown, Ph.D., P.E., <i>University of North Florida</i> ; Raphael Crowley, Ph.D., P.E., M.ASCE, <i>University of North Florida</i> ; Nick Hudyma, Ph.D., P.E., M.ASCE, <i>University of North Florida</i>	Advanced Geotechnical Education and Acquiring Good Engineering Judgement Through Project Experiences , Peter D. Scott, BSc, MSc, F.ASCE, FICE, CEng, FGS, <i>Buro Happold Limited</i>	Hydraulic Conductivity and Soil Water Retention of Waste Rock and Tailings Mixtures , Mohammad H. Gorakhki, <i>Colorado State University</i> ; Christoher A. Bareither, <i>Colorado State University</i> ; Joseph Scalia, <i>Colorado State University</i> ; Michael Jacobs, <i>Goldcorp Inc.</i>	
Quantifying the Influence of Construction Methods on Hollow-Bar Micropiles' Performance in Sand , Md Ahsanuzzaman, Ph.D., Third Year Student, <i>North Carolina State University</i> ; Alex Smith, P.E., <i>Subsurface Construction Co., LLC</i> ; Mohammed (Mo) Gabr, Ph.D., P.E., F. ASCE, D. GE, <i>North Carolina State University</i> ; Ray Borden, Ph.D., P.E., F.ASCE, <i>North Carolina State University</i>	Jet Grouting for Excavation Support, Underpinning, and Groundwater Control for the Construction of Sewage Treatment Plant Tanks , Russell W. Preuss, P.E. M.ASCE, <i>Gannett Fleming, Inc.</i> ; Daniel V. Vacciola, P.E., M.ASCE, <i>Gannett Fleming, Inc.</i> ; Carlos Medina, <i>Hayward Baker</i>	George B. Stevenson Dam Rehabilitation – The Importance of Uncertainty and Confidence Evaluation in Quantitative Risk Assessments (QRA) , Scott A. Raschke, Ph.D., P.E., M.ASCE, <i>Schnabel Engineering</i> ; Gregory S. Paxson, P.E., D.WRE, <i>Schnabel Engineering</i> ; Edward (Woody) Raptosh, P.E., <i>Pennsylvania Department of Conservation and Natural Resources (DCNR)</i>	Monitoring of Full Scale Tieback Wall and How It Can Improve Student's Learning – Case History Paper , Matheus Barbosa Santos de Miranda, M.ASCE, <i>Rose-Hulman Institute of Technology</i> ; Kyle A. Kershaw, Ph.D., P.E., <i>Rose Hulman Institute of Technology</i>	Factors Affecting the Kinetics of Urea Hydrolysis via Sporosarcina Pasteurii , Shahin Safavizadeh, Ph.D., <i>North Carolina State University</i> ; Brina Mortensen Montoya, Ph.D., P.E., <i>North Carolina State University</i> ; Mohammed A. Gabr, Ph.D., P.E., <i>North Carolina State University</i> ; Detlef R. U. Knappe, Ph.D., P.E., <i>North Carolina State University</i>	

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10:00 – 11:30 a.m.	Technical Sessions						
Track A Room 122A	Track B Room 125	Track C Room 123	Track D Room 124	Track F Room 122B			
<p>Deep Foundations: Special Topics Moderators: Joseph Thomas Coe, Jr., P.E., Matteo Montesi, P.E., M.ASCE</p>	<p>Underground Engineering and Construction Moderators: John S. McCartney, Ph.D., P.E., F.ASCE; Sofirios Vardakos, Ph.D., C.Eng, M.ASCE</p>	<p>Risk Assessment and Management Moderators: Haltham M. Dawood, Ph.D., P.E., M.ASCE; Kallol Sett, Ph.D., EIT, A.M.ASCE</p>	<p>Education for Geotechnical Engineering Moderators: Andrea L. Welker, P.E., M.ASCE; Patricia M. Gallagher, P.E.</p>	<p>Geoenvironmental Engineering Moderators: Kristin Sample-Lord, P.E., M.ASCE; Ehsan Ghazanfari, Ph.D., P.E. M.ASCE</p>			
<p>Visualization of Torpedo Pile Penetration and Pullout in Transparent Synthetic Soil Representative of Soft Marine Clays, Abdelaziz Aads, M.Sc., <i>New York University</i>; Mehdi Omidvar, Ph.D., A.M.ASCE, <i>Manhattan College</i>; Stephan Bless, Ph.D., <i>New York University</i>; Magued Iskander, Ph.D., P.E., F.ASCE, <i>New York University</i></p> <p>Assessment of Helical Anchor Capacity in Marine Clays for Aquaculture Applications, Leon D. Cortes-Garcia, S.M.ASCE, <i>University of Maine</i>; Melissa E. Landon, Ph.D., P.E., A.M.ASCE, <i>University of Maine</i>; Aaron P. Gallant, Ph.D., P.E., M.ASCE, <i>University of Maine</i>; Kimberly Huguenard, Ph.D., A.M.ASCE, <i>University of Maine</i></p> <p>500 Walnut Street: High-Capacity Auger Pressure-Grouted Piles Used to Support 26-Story Multi-Family Tower Behind Independence Hall, Michael J. Kwiatkowski, P.E., M.ASCE, <i>Maser Consulting P.A.</i>; Daniel S. Stevenson, P.E., <i>Berkel and Company Contractors, Inc.</i>; Philip E. Gauffreau, P.E., M.ASCE, <i>Maser Consulting P.A.</i></p>	<p>Overcoming Challenges for the Parallel Thimble Shoal Tunnel Site Investigation, Scott Kibby, P.E., M.ASCE, <i>Mott MacDonald</i>; Frank Perrone, P.E., M.ASCE, <i>Mott MacDonald</i>; Amanda Wachenfeld, EIT, A.M.ASCE, <i>Mott MacDonald</i>; Jose Ballesta, <i>Dragados USA</i></p> <p>Foundation Challenges for a Multi-Level Parking Structure in Boulder-Laden Fill: A Case Study, Aditya Bhatt, Ph.D., A.M.ASCE, <i>Willmer Engineering, Inc.</i>; Daniel C. Pitts, P.E., M.ASCE, <i>Willmer Engineering, Inc.</i>; Sujit K. Bhowmik, Ph.D., P.E., M.ASCE, <i>Willmer Engineering, Inc.</i>; James L. Willmer, P.E., F.ASCE, <i>Willmer Engineering, Inc.</i></p> <p>Case Study: Geotechnical Instrumentation and Monitoring of Alaskan Way Viaduct Replacement Project, Zhangwei Ning, Ph.D., M.ASCE, <i>Sixense Inc.</i>; Loic Galisson, <i>Sixense Inc.</i>; Philip Smith, <i>Sixense Inc.</i></p>	<p>Predicting Multiple Hazards Under Extreme Rainstorms, Shengyang Zhou, <i>Hong Kong University of Science and Technology</i>; Limin Zhang, <i>Hong Kong University of Science and Technology</i>; Ping Shen, <i>Hong Kong University of Science and Technology</i></p> <p>Geotechnical Risk Assessment and Back Analysis of Ground Movements Induced by Tunnel and Open-Cut Excavations, Mihail E. Popescu, Ph.D., P.E., D.GE, <i>HBK Engineering, LLC</i>; Andrew J. Schwarz, S.E., P.E., LEED, <i>HBK Engineering, LLC</i>; Naser Elsbih, P.E., <i>HBK Engineering, LLC</i></p> <p>Geohazards, Extreme Weather Events and Climate Conditions – The Development of FHWA Guidance, Betsy Godfrey, P.E., M.ASCE, <i>WSP USA</i>; Khalid T. Mohamed, P.E., PMP, <i>U.S. Department of Transportation, Federal Highway Administration (FHWA)</i>; Brian H. Zelenko, P.E., M.ASCE, <i>WSP USA</i></p>	<p>Increasing Collaboration among Geotechnical Engineering Faculty: A Case Study from the “Geotechnical Engineering Women Faculty: Networked and Thriving” Project, Patricia M Gallagher, Ph.D., P.E., <i>Drexel University</i>; Shobha K. Bhatia, Ph.D., <i>Syracuse University</i>; Sharon W. Alestalo, <i>Syracuse University</i>; Sucheta Soundarajan, Ph.D., <i>Syracuse University</i>; Adda Athanasopoulos-Zekkos, Ph.D., <i>University of Michigan</i></p> <p>Off-Site Implementation of GeoExplorer – A Game-Based Module for Geotechnical Engineering Education, Victoria Bennett, <i>Rensselaer Polytechnic Institute</i>; Ifeanyi Mbah, <i>Rensselaer Polytechnic Institute</i>; Casper Harteveld, <i>Northeastern University</i>; Binod Tiwari, <i>California State University Fullerton</i>; Beena Ajmera, <i>California State University Fullerton</i>; Flora McMartin, <i>Broad-based Knowledge</i>; Tarek Abdoun, <i>Rensselaer Polytechnic Institute</i>; Usama El Shamy, <i>Southern Methodist University</i></p>	<p>In Situ Compaction Characterization of Dry Stacked Coal Combustion Residues, David J. White, Ph.D., P.E., M.ASCE, <i>Ingios Geotechnics, Inc.</i>; Pavana Vennapusa, Ph.D., P.E., M.ASCE, <i>Ingios Geotechnics, Inc.</i>; Brendan FitzPatrick, P.E., M.ASCE, <i>Ingios Geotechnics, Inc.</i>; Eric Hageman, <i>HDR Engineering</i>; Jason F. Hill, <i>Tennessee Valley Authority</i>; Nick McClung, P.E., <i>Tennessee Valley Authority</i></p> <p>Shear Response of Interfaces in Liner System Under Accelerated Degradation of MSW in Bioreactor Landfill, Girish Kumar, S.M.ASCE, <i>University of Illinois at Chicago</i>; Krishna R. Reddy, Ph.D., P.E., F.ASCE, <i>University of Illinois at Chicago</i></p> <p>Stresses in Soil-Bentonite Slurry Trench Cutoff Wall, Daniel G. Ruffing, P.E., <i>Geo-Solutions, Inc.</i>; Jeffrey C. Evans, Ph.D., P.E., D.GE., F.ASCE, <i>Bucknell University</i></p>			
11:30 a.m. – 1:00 p.m.	Lunch, Exhibit Hall E						
1:00 – 2:00 p.m.	Ralph B. Peck Award Lecture, Terrace Ballroom IV						
2:00 – 2:30 p.m.	Closing Ceremony, Terrace Ballroom IV						