

10th Conference

GeoVirginia 2026

Lessons Learned in Geotechnical Engineering



Smithfield Center

220 N. Church Street
Smithfield, Virginia

October 19-21, 2026

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

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GeoVirginia 2026 October 19-21, 2026

PREMIUM EXHIBITORS

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In-Situ Soil Testing, L.C.

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GeoVirginia 202

PROGRAM

Monday | October 19, 2026		
TIME	**OPTIONAL** **GOLF OUTING** Newport News Golf Club at Deer Run 901 Clubhouse Way Newport News, VA 23608	**OPTIONAL** **FULL DAY SHORT COURSE** Smithfield Center 220 N. Church Street Smithfield, VA 23430
8:00 AM	Shotgun Starts at 9:00 AM	**Static and Pseudo-Static Stability Analyses for Natural and Manmade Slopes** Dr. Timothy D. Stark, PhD, PE, BC.GE, Dist. M. ASCE, University of Illinois at Urbana-Champaign Dr. Jay McKelvey, PhD, PE, BC.GE, F.ASCE, Earth Engineering, Inc. Sponsored by: *Embankments, Dams, and Slopes Technical Committee ASCE Geo-Institute* Lunch Included
9:00 AM		
10:00 AM		
11:00 AM		
12:00 PM		
1:00 PM	Lunch & Raffles 2:00 PM	
2:00 PM		
3:00 PM to 5:00 PM	No Planned Activities	
5:30 PM to 6:00 PM	**Remembrances:** **Prof. J. Michael "Mike" Duncan by Morgan Eddy** **Prof. Richard "Dick" Handy by Roger Failmezger**	
6:00 PM to 9:00 PM	**EXHIBIT HALL RECEPTION/REGISTRATION**	
9:00 PM to 11:00 PM	**HOSPITALITY SUITES OPEN AT SMITHFIELD STATION**	

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PROGRAM (CONTINUED)

Technical Program - Smithfield Center	
Tuesday | October 20, 2026	
7:30 AM	**BREAKFAST**
8:30 AM	**Welcome Remarks** **Jose N. Gómez, PE, MSCE, BC.GE, F. ASCE, Conference Co-Chair** **Intertek-PSI**
8:40 AM	**Thanks to the Exhibitors** **Sameer Karki, MSCE, EIT, Conference Exhibits Manager** **Froehling & Robertson, Inc.**
8:45 AM	**Geosetta – The Public Subsurface** **Ross Cutts, PE** **President, Geosetta, Inc.**
8:55 AM	**Risk Management for Geotechnical Engineering** **Duncan C. Wyllie, PhD, PE, Principal** **Wyllie & Norrish Rock Engineers**
9:45 AM	**Engineering with Courage: Ethics, Public Trust, and the Responsibility to Speak Up** **Amy B. Cerato, PhD, PE, Rapp Foundation Presidential Professor** **University of Oklahoma**
10:35 AM	**BREAK**
11:00 AM	**Lessons Learned from Excavation Projects** **Bryan P. Sweeney, PhD, PE, BC.GE, Senior Vice President** **Haley & Aldrich, Inc.**
11:50 AM	**GeoInstitute BC.GE** **Peggy Hagerty Duffy, PE, BC.GE**
12:00 PM	**LUNCH**
1:15 PM **Keynote Speaker**	**Geosynthetic Stabilization of Road Pavements, Railways and Airfields** **Erol Tutumluer, PhD, Dist. M. ASCE, Abel Bliss Professor of Engineering** **University of Illinois Urbana-Champaign**
2:45 PM	**AI and Information Engineering in Tunnel Design and Construction** **Mike Mooney, PhD, PE, Grewcock Distinguished Chair Professor** **Colorado School of Mines**
3:35 PM	**BREAK**

PROGRAM (CONTINUED)

Tuesday | October 20, 2026 (Cont'd)	
4:00 PM	**Understanding the Whole Story - When Data Aren't Enough** Peggy Hagerty Duffy, PE, BC.GE, President Hagerty Engineering
4:50 PM	**Legal Lessons Learned from Battles in Geotechnical Engineering** Kathleen Olden Barnes, Esquire, Senior Partner Watt Tieder Hoffar & Fitzgerald, LLP
5:40 PM	**RECEPTION WITH EXHIBITORS**
6:40 PM	**DINNER**
8:40 PM to 10:40 PM	**HOSPITALITY SUITES OPEN AT SMITHFIELD STATION** **(Desserts and After Dinner Drinks)**
Wednesday | October 21, 2026	
7:30 AM	**BREAKFAST**
8:30 AM	**Response of Laterally Loaded Piles in Underconsolidated Soils** Yazen Khasawneh, PhD, PE, Associate Teaching Professor, University of Notre Dame Spencer Ness, PE, M. ASCE, PhD Candidate, University of Notre Dame; Project Engineer, Terracon Consultants
9:20 AM	**Short Stories from Recent Design-Build Projects** Mazen Adib, PhD, PE, GE, Principal Geotechnical Engineer Fugro USA
10:10 AM	**BREAK**
10:35 AM	**Lessons Learned from Transportation Projects: Tales from the Trenches of Geotechnical Project Management** Monique Anderson, PE, Vice President and Geotechnical Engineer Shannon & Wilson, Seattle, WA
11:25 PM	**20 Years of Cast-in-Place Pile Design and Installation** Morgan NeSmith, PE, BC.GE, Director of Engineering BERKEL
12:15 PM	**CLOSING REMARKS** Roger Failmezger, PE, BC.GE, F. ASCE, Conference Co-Chair, In-Situ Soil Testing, LC

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ORGANIZING COMMITTEE



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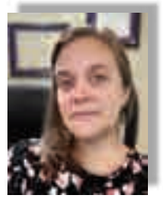
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A CELEBRATION OF LIFE

J. Michael "Mike" Duncan, PhD, PE, NAE, Dist. M. ASCE



James Michael "Mike" Duncan, University Distinguished Professor Emeritus at Virginia Tech, passed away peacefully at his residence in Brentwood, California, on August 18, 2026, at the age of 89.

Mike received his BS and MS degrees in Civil Engineering from the Georgia Institute of Technology in 1959 and 1962 and his PhD in Civil (Geotechnical) Engineering from the University of California, Berkeley, in 1965. He joined the Berkeley faculty that same year, becoming a full professor in 1973. In 1984, Mike and his wife, Ann, moved east when he joined Virginia Tech as the W. Thomas Rice Professor. He was appointed University Distinguished Professor in 1987 and became a defining figure in Virginia Tech's geotechnical engineering program.

Mike's research spanned soil shear strength, slope stability and seepage, embankment dams, finite element analysis, soil constitutive models, earth-retaining systems, and soil-structure interaction. He was also an internationally recognized practicing geotechnical engineer whose expertise was sought on many significant projects. His consulting work included the first Ekofisk offshore oil platform in the North Sea, safety evaluations for more than 30 dams, the investigation of levee and floodwall performance following Hurricane Katrina, and more than two decades of service on the Geotechnical Advisory Board for the Panama Canal Commission. Many in our community will remember Mike's presentation at GeoVirginia 2012, where he shared lessons learned from landslides at the Panama Canal.

Mike received many of the geotechnical profession's highest honors. He was elected to the National Academy of Engineering in 1985, delivered the ASCE Terzaghi Lecture, and received the H. Bolton Seed Medal, Karl Terzaghi Award, three Thomas A. Middlebrooks Awards, and the OPAL Award for lifetime achievement in education. He was also recognized as an ASCE Geo-Institute "Hero" and received numerous awards for excellence in teaching.

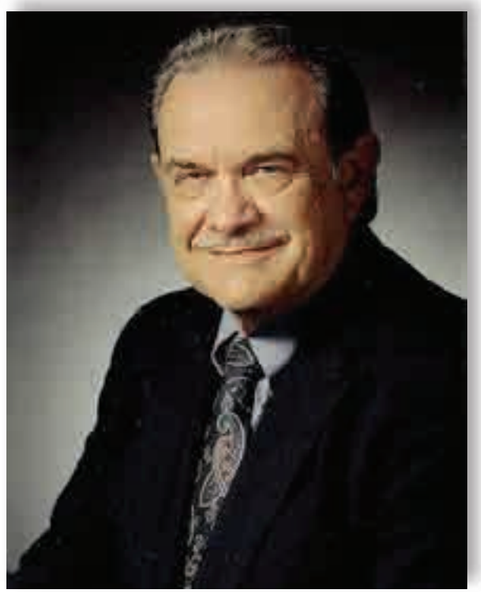
Mike's legacy, however, extends well beyond his technical accomplishments. At Virginia Tech, he established the Center for Geotechnical Practice and Research, strengthened connections between students and the practicing engineering community, and emphasized the importance of communication and professional involvement. He also provided seed funding for the Duncan Endowment for Graduate Student Travel, helping Virginia Tech students attend conferences and become active participants in the profession.

Mike's influence lives on through the Virginia Tech program he helped build, the students and engineers he mentored, and the knowledge and experience he generously shared throughout his career. The Virginia geotechnical community was fortunate to count Mike among its teachers, mentors, colleagues, and friends, and he will be greatly missed.

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A CELEBRATION OF LIFE

Richard L. Handy, PhD, PE, M. ASCE



Richard L. Handy, 96, of Ames, Iowa, passed away on Saturday, January 31, 2026, at Green Hills Health Care Center in Ames, Iowa.

Richard Lincoln Handy was born to Florence E. Shoemaker and Walter N. Handy in Chariton, Iowa, on February 12, 1929. His father was a civil engineer graduating from Iowa State College and Florence Handy was a homemaker. Richard first came to Iowa State College in 1947 for his bachelor's and master's degrees in geology (1951 and 1953, respectively). He continued for his PhD, earning a degree in civil engineering, geology, and soil engineering in 1956. After graduating, he began his 60-year career at Iowa State University, becoming a full Professor of Civil Engineering in 1963. He was awarded the honors of Anson Marston Distinguished Professor and Distinguished Professor Emeritus in 1991.

Richard had over 100 academic publications, four published books and over 20 patents for soil testing equipment and soil stabilization. More than 60 graduate students earned their degrees under his mentorship.

In 1969, he founded Handy Geotechnical Instruments, Inc. In 2011, 35 former students and colleagues established the Richard L. Handy Professorship as an endowed faculty position in Richard's honor. In a 2018 interview for the ASCE Geo-Institute Magazine, Geostrata, he was recognized as a GeoLegend.

Following the massive discovery of oil at Prudhoe Bay in 1968, the Humble Oil & Refining Co. (later Exxon) launched a historic experiment to determine if icebreaking supertankers could reliably navigate the frozen Northwest Passage to bring Alaskan crude to the U.S. East Coast . In 1970, as a professor, he performed truly groundbreaking research with six undergraduate students on the NW passage expedition of the SS Manhattan, the largest icebreaker ever built. evaluating the physical properties of the arctic ice pack. When the massive vessel intentionally rammed or became stuck in the ice, Handy's team conducted rigorous shear strength and density tests on the surrounding sea ice and snow blankets. This structural data was critical for mapping out how much resistance a commercial mega-tanker would face, providing what peer scientists later cited as "the most valuable full-scale ice breaking data yet available". Later, a book published in Iceland credited the team as the "outstanding scientists on the Manhattan." National Geographic Magazine featured the expedition in a March 1970 story, and a replica of the SS Manhattan resides in the Smithsonian Museum.

Benjamin Franklin said, "Tell me and I forget, teach me and I remember, involve me and I learn." This became Richard's style of teaching. He never sought accolades, but they came nonetheless, because the quality of his work was known worldwide.

ABSTRACTS

Risk Management for Geotechnical Engineering

Duncan C. Wyllie, PhD, PE
Principal
Wyllie & Norrish Rock Engineers

Abstract



An inherent feature of engineering projects, and particularly geotechnical projects, is uncertainty. Common sources of uncertainty are in parameter values, analysis methods and operating conditions. The reliability of designs is enhanced by the application of risk management in which uncertainty is quantified in terms of the probability of failure, and the possible consequence of failure; risk is the product of probability and consequence. Calculated risk can then be compared to levels of risk that are generally acceptable to society. Risk management can be applied to both events that occur repeatedly but unpredictably, such as landslides, and to individual projects, such as bridge and dam foundations. The objective of risk management is to prepare designs that meet a consistent, required level of reliability.

Topics covered in the presentation include comparison between risk on transportation systems in North America and Japan, and very low risk conditions such as Uluru (Ayers Rock) in Australia and very high risk conditions such as the foundation of Kariba Dam in central Africa.

Learning Objectives:

a) Demonstrate how uncertainty can be quantified in terms of probability distributions defined by means and maximum/minimum values.
b) Demonstrate risk calculations as the product of probability of failure and consequence of failure.
c) Discuss probability (F) and consequence (N) using [F – N] chart to show acceptable and unacceptable levels of risk.
d) Show how risk management can be applied to events, such as landslides that occur repeatedly, as well as activities such as construction projects where the risk is related to the quality of the investigation program, design methods and construction practices.
e) Illustrate how Decision Analysis can be used to optimize selection of mitigation measures such as comparing existing rock slope instability with either minor scaling or extensive bolting and shotcreting.

Duncan Wyllie *is a geological engineer with 58 years of experience in the fields of rock slopes, tunnels, foundations and blasting, and has worked in both underground and open pit mines. He has an M.S. from the University of California, Berkeley and a PhD from the University of British Columbia. He has also written books on Rock Slopes, Rock Foundations, Rock Falls and Risk Management.*

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Engineering with Courage: Ethics, Public Trust, and the Responsibility to Speak Up

Amy B. Cerato, PhD, PE
Principal
Rapp Foundation Presidential Professor, University of Oklahoma
Cerato Geotechnical Engineering, PLLC
President, Oklahomans for Responsible Transportation



Abstract

Engineering decisions shape communities for generations. While most engineers will never face a high-profile public controversy, every engineer will eventually encounter situations where technical judgment, organizational priorities, political pressure, and professional ethics come into conflict. How engineers respond in those moments defines not only their careers, but also the public's trust in the profession.

Drawing from her experience as both a geotechnical engineering professor and a professional engineer involved in the public debate surrounding Oklahoma's ACCESS Oklahoma turnpike expansion, Dr. Amy Cerato explores the ethical responsibilities engineers face when infrastructure projects become contentious. Through real-world examples, she examines the tension between serving clients, protecting the public, communicating technical risk, and maintaining professional integrity when institutions, stakeholders, and citizens hold competing interests.

The presentation challenges attendees to think beyond technical competence and consider the broader responsibilities of engineering leadership. Participants will explore how courage, transparency, and ethical decision-making can strengthen public confidence in the engineering profession, particularly when projects involve significant social, environmental, and property impacts. Ultimately, the presentation asks a fundamental question: What does it mean to fulfill an engineer's obligation to hold paramount the safety, health, and welfare of the public when the path forward is neither simple nor popular?

Amy B. Cerato *is the Rapp Foundation Presidential Professor of Civil Engineering at the University of Oklahoma. Her research focuses on geotechnical engineering, including expansive soils, foundation performance, soil–structure interaction, and transportation geotechnics. She has led federally and state-funded research projects aimed at improving the resilience, reliability, and long-term performance of civil infrastructure systems.*

Dr. Cerato also serves as President of Oklahomans for Responsible Transportation, a 501(c)(3) organization dedicated to infrastructure education and policy research. Through this work and her Substack publications, she examines how engineering standards, risk management practices, and institutional decision-making shape public infrastructure outcomes.

As a licensed Professional Engineer, she integrates technical rigor with practical implementation, advancing geotechnical solutions that support resilient transportation systems and informed public stewardship.

Lessons Learned from Excavation Projects



Bryan P. Sweeney, PhD, PE, BC.GE
Senior Vice President
Haley & Aldrich, Inc.

Abstract

Deep excavation projects may encounter unforeseen ground conditions and construction challenges despite comprehensive geotechnical investigations and carefully developed excavation support systems. While these events can affect project cost, schedule, and performance, they also provide valuable opportunities to improve future engineering practice.

This presentation examines a series of excavation projects where unexpected field conditions and soil-structure interaction resulted in behaviors that differed from design expectations. Through these case histories, the presentation explores key technical and contractual issues that influence excavation performance, including the selection of analysis and design methodologies, allocation of design responsibility, and the limitations of some geotechnical models.

The discussion also addresses excavation-induced ground movements and their effects on adjacent utilities, roadways, and existing structures. The role of geotechnical instrumentation and monitoring programs is evaluated, including when instrumentation is warranted, practical challenges associated with installation and data collection, and the importance of timely interpretation of monitoring results for risk-informed decision making.

Beyond the technical aspects, the presentation examines the shared responsibilities of owners, designers, and contractors in identifying, communicating, and managing geotechnical risk prior to construction. Emphasis is placed on establishing realistic owner expectations, aligning design approaches with project-specific risk tolerance, and promoting early collaboration among project stakeholders to mitigate potential impacts on cost and schedule.

Drawing upon real-world project experience, the presentation provides practical lessons learned and recommendations for improving the planning, design, construction, and risk management of future excavation projects.

Bryan Sweeney *has 45 years of experience in structural and geotechnical engineering. He received his Bachelor's degree from the University of Notre Dame, and his Master's and Doctorate degrees from Stanford University. He is a licensed professional engineer in five states including a structural engineering registration in Massachusetts. He has published and presented numerous technical papers and is past Chairperson of the ASCE Earth Retaining Structures Committee.*

His excavation-related experience includes the analysis and design of many types of excavation support systems including large-diameter caissons, slurry walls, SPTC walls, jet grout walls, steel sheeting, and soldier piles. His expertise also includes the design of instrumentation programs to monitor excavation performance. He has worked for a variety of different entities interested in excavation support systems including those benefiting from the excavation and others such as abutters, lawyers and insurance companies as an expert witness.

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Geosynthetic Stabilization of Road Pavements, Railways and Airfields



Erol Tutumluer, PhD, Dist. M. ASCE – Keynote Speaker
Abel Bliss Professor of Engineering
University of Illinois Urbana-Champaign

Abstract

Geosynthetics provide sustainable alternatives for enhanced performance, durability and cost-effectiveness of road pavements, railways and airfields. Geosynthetic stabilization applications are primarily targeted for soft subgrade stabilization in unpaved roads and working platforms and for unbound aggregate stabilization in paved road foundation and railroad track substructure layers. The main mechanisms are often the load bearing capacity improvement on soft subgrade construction and the lateral restraint to prevent aggregate particle movement. A typical increase in local stiffness in the vicinity of the installed stabilization geosynthetic is commonly observed. Such a local modulus enhancement during road construction and minimizing of degradation related to decrease in modulus with traffic loading need to be properly quantified to evaluate geosynthetic benefits realized by either reducing aggregate layer thickness or extending transportation facility lifespan. This keynote presentation will report on two decades of developments and research findings at the University of Illinois and elsewhere on the topic of geosynthetic stabilization. These include advanced testing techniques and new sensors developed to quantify benefits of geosynthetic stabilization mechanisms and applications, identification of relevant geosynthetic properties, available design methodologies, and laboratory and full-scale tests and case histories involving the use of geosynthetics in pavements, railways and airfields.

Erol Tutumluer *is Abel Bliss Professor specializing in Transportation Geotechnics in the Department of Civil and Environmental Engineering at the University of Illinois at Urbana-Champaign. Professor Tutumluer is the Paul F. Kent Endowed Faculty Scholar and serves as the Director of International and Zhejiang University and the University of Illinois (ZJUI) Education Programs. Dr. Tutumluer has research interests and expertise in characterization of pavement and railroad track geomaterials, soil/aggregate stabilization, geosynthetics, advanced imaging techniques and applications of artificial intelligence and deep learning techniques to transportation infrastructure, structural health monitoring of transportation facilities using sensors.*

Dr. Tutumluer has served as an investigator on over 140 research projects, supervised 28 PhD and 49 MS students, and authored/co-authored over 450 peer-reviewed publications from his research projects. Dr. Tutumluer is a Founding Editor-in-Chief of the Transportation Geotechnics Elsevier journal and the immediate past Chair of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) Technical Committee 202 on Transportation Geotechnics; he served as TC202 Chair from 2013 until 2022. Dr. Tutumluer is a Distinguished Member of the American Society of Civil Engineers (ASCE).

Dr. Tutumluer has received numerous additional national and international awards and recognitions over the course of his distinguished career.

AI and Information Engineering in Tunnel Design and Construction



Mike Mooney, PhD, PE
Grewcock Distinguished Chair Professor of Underground Construction & Tunneling
Professor, Civil and Environmental Engineering
Professor, Mechanical Engineering

Abstract

The last two decades have brought a tidal wave of real-time instrumentation and monitoring to underground construction projects, with thousands of sensors providing data every few seconds. Real-time access to geotechnical/structural monitoring and TBM data, with remote graphical access to data, is now standard practice worldwide. In theory, this provides wonderful medicine for the epidemic of geotechnical risk brought about by massive levels of uncertainty in ground conditions and ground behavior. This presentation addresses ways in which information engineering, including AI machine learning, has been and can be further used to advance tunnel design and construction across numerous projects in the US and internationally. The presentation will focus on learning, prediction, forecasting and risk reduction using conventional excavation and particularly tunnel boring machine (TBM) data. AI-driven advances discussed in the presentation will include the advancement of ground deformation prediction techniques using monitoring data, characterizing the ground conditions using TBM data, updating the geological model using TBM data, TBM performance monitoring and anomaly detection using pattern recognition techniques, optimization of TBM operations. Results from implementation of procedures from multiple projects are presented for each aspect. The barriers and enablers for industry adoption are also discussed within the context of these advances.

Mike Mooney *is the Bruce E. Grewcock Chair Professor of Underground Construction & Tunnel Engineering at Colorado School of Mines. He leads the Center for Underground, the Underground Construction and Tunnel Engineering post-graduate degree and certificate program and the annual Tunneling short course for industry. Mike's research focuses on tunnel and underground space design and construction, machine-ground interaction, ground-structure interaction, geoconstruction processes and geoconstruction risk characterization. Mike was elected to the National Academy of Construction, is a registered Professional Engineer, and is a consultant on numerous tunneling projects worldwide. Mike lives on a farm in Golden, Colorado with his wife and 3 kids (1 off in college) and spends his spare time fixing the many things that horses break.*

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Understanding the Whole Story - When Data Aren't Enough



Peggy Hagerty Duffy, PE, BC.GE
Executive Director/President
ADSC/Hagerty Engineering

Abstract
Geotechnical explorations in recent years have improved greatly as the accuracy of field data obtained from the subsurface has increased. However, our concentration on high-tech and discrete data points often pushes out any real consideration of context. Several case studies will be used to emphasize the need to evaluate the bigger picture even as the reliability of subsurface data at the micro-level grows significantly.

Peggy Hagerty Duffy *is President of Hagerty Engineering and Executive Director of ADSC: The International Association of Foundation Drilling. She has a Bachelor of Science degree in Civil Engineering and a Master of Engineering in Civil Engineering from the University of Louisville. She has over 35 years of experience in geotechnical engineering, with a concentration in sinkhole evaluation and remediation, and drilled shaft foundations.*

Legal Lessons Learned from Battles in Geotechnical Engineering



Kathleen Olden Barnes, Esquire
Senior Partner
Watt Tieder Hoffar & Fitzgerald, LLP

Abstract

Geotechnical disputes often arise from differing interpretations of subsurface conditions, GBRs, GDRs, and project risk allocation. Through a review of case histories and recent legal decisions, this seminar examines how courts and tribunals evaluate geotechnical reports, differing site condition claims, and design assumptions when resolving construction disputes. Attendees will gain practical guidance on developing effective geotechnical baselines, documenting site conditions, preserving claims, and reducing project risk before disputes arise.

Kathy Barnes' *practice focuses on domestic and international construction contracting and federal government contracts. She counsels and advises contractors, design engineering firms, construction managers and owners in all phases of industrial, power, civil, transportation and commercial construction in the United States and overseas. Kathy has represented clients at every stage of complex construction dispute resolution including claim preparation, negotiation and other informal ADR procedures, mediation, arbitration and litigation in both federal and state courts. She also has extensive experience litigating bid protests and government contract claims, having successfully represented her clients with claims involving geotechnical and other changed conditions, research and development, information technology procurements and contracts for military and other applications.*

Kathy is a Fellow with the American College of Construction Lawyers, an adjunct professor at George Mason School of Law, a coach for the Vis International Moot Court Competition and a practicing arbitrator for the American Arbitration Association.

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Response of Laterally Loaded Piles in Underconsolidated Soils

Yazen Khasawneh, PhD, PE
Associate Teaching Professor
Department of Civil and Environmental Engineering and Earth Sciences
University of Notre Dame
Spencer Ness, PE, M. ASCE
PhD Candidate, *University of Notre Dame*
Project Engineer, *Terracon Consultants*





Abstract

Laterally loaded deep foundation elements are commonly utilized in waterfront structures. However, at waterfront locations due to the presence of underconsolidated deposits, the performance of foundation elements is significantly impacted by the development of excess pore pressure, soil properties dependent on pore water pressures, and the low shear strengths inherent to these low effective stress conditions. Accurate prediction of foundation performance under such conditions is challenging and requires more advanced and detailed methods than the p-y curves often used in typical deep foundation design methods.

This case study presents lessons learned from a waterfront development in the southeastern United States that faced significant challenges during construction due to deep foundations supported by underconsolidated soils. The project team had to work rapidly to identify shortcomings in the initial approach, incorporate findings from observed on-site behaviors, and develop an advanced modeling approach that would sufficiently capture the observed site behavior. Three-dimensional, nonlinear modeling approaches were utilized to understand both the stress- and time-dependent nature of the pile behavior. Key outcomes included understanding the ground conditions that had developed during construction, determining the available capacity of deep foundation elements that had undergone significant displacement since installation, and identifying solutions to keep construction moving for a schedule-constrained project.

Dr. Yazen Khasawneh *is an associate teaching professor at the Department of Civil and Environmental Engineering and Earth Sciences at the University of Notre Dame. Before joining Notre Dame, he worked in the industry for more than 20 years on high profile projects throughout the US and overseas. His expertise is in soil-structure interaction, structural and soil response to dynamic loading, development of constitutive models, forensic engineering, testing through various scales, and instrumentation. Dr. Khasawneh is active in various DFI and ASCE technical committees focused on soil modeling, computational geotechnics, and lateral loading on piles. He received his bachelor's degree from Jordan University of Science and Technology, masters from the University of Illinois, and PhD from Purdue, all in civil engineering. He is a registered Professional Engineer in the state of Michigan.*

Spencer Ness *is a Project Engineer with Terracon within their Geodesign and Instrumentation Services group. A licensed engineer, he serves as a leading numerical modeler for the company, supporting projects across the country. Spencer is also pursuing a doctorate at the University of Notre Dame in computational geotechnics. His research focuses on assessing the long-term performance of the foundations supporting onshore wind turbines through numerical methods and structural health monitoring.*

Short Stories from Recent Design-Build Projects



Mazen Adib, PhD, PE, GE
Principal Geotechnical Engineer
Fugro USA

Abstract

This presentation shares a series of short stories from a wide range of recent design-build projects, each illustrating how sound engineering, instrumentation, and performance verification can turn subsurface uncertainty into managed risk.

We begin with unexpected ground deformation during the early stage of tunneling in downtown Los Angeles. Although the movement exceeded expectations for an earth pressure balance (EPB) tunnel boring machine designed for small displacements, the extensive instrumentation allowed the contractor and owner to identify the exact cause and address the malfunction. The issue was resolved, but it demonstrated the value of geotechnical monitoring in diagnosing a problem, not just detecting movement.

Next, we examine the factors behind a successful geotechnical delivery on the I-405 Improvement Project: a CPT-centric design approach that expedited data collection and reporting; an observational method for preload monitoring that kept the work aligned with schedule through careful evaluation of settlement behavior; and the extensive use of lightweight cellular concrete (LCC) to keep abutment and retaining-wall movements within tolerance.

We then turn to how well-preserved 1960s bridge records kept by the owner allowed a design-build team to design several temporary bridges without additional subsurface investigation, using pre-bid data and historical pile-driving performance later confirmed by CAPWAP testing. A companion story presents the challenge of driving open-ended steel pipe piles in sand under artesian pressure, where vibratory installation can compound the reduction in shaft resistance caused by the artesian condition—an alignment of factors whose adverse effect on capacity is difficult to predict with confidence.

Two final stories highlight the value of monitoring and the limits of prediction: reclamation fill over vertical drains, where groundwater rose during construction as anticipated and the team relied on monitoring and readiness to respond as settlement progressed; and a lateral load test in which pre-drilling produced markedly different responses in closely spaced piles, quantifying the effect of installation sequence on lateral pile behavior.
These are a few projects where measurement, not assumption, told the real story.

Mazen Adib is a Principal Geotechnical Engineer delivering geostructural solutions for transit, transportation, marine, and energy infrastructure. He has provided advanced geotechnical analysis and instrumentation and monitoring services for LA Metro's Regional Connector and Crenshaw/LAX projects, including ground movement interpretation, instrumentation assessment, and numerical modeling of deep excavations and tunneling. Dr. Adib also supports the VTA BART Silicon Valley Extension and NAVFAC's Pearl Harbor Dry Dock 3 Replacement, contributing expertise in ground deformation, deep foundations, reclamation fills, and ground improvement strategies. Mazen contributes to geotechnical practice through published case studies documenting lessons learned and innovative solutions.

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Lessons Learned from Transportation Projects: Tales from the Trenches of Geotechnical Project Management

Monique Anderson, PE
Vice President and Geotechnical Engineer
Shannon & Wilson, Seattle, WA



Abstract

Transportation projects place geotechnical engineers at the intersection of technical uncertainty, project constraints, and evolving stakeholder expectations. Successful outcomes depend not only on sound geotechnical studies and recommendations, but also on how well those studies and recommendations are developed, communicated, documented, and integrated into the realities of budget, schedule, and decision-making processes throughout the life of a project.

This presentation shares lessons learned from a range of transportation projects, including major infrastructure programs and smaller WSDOT assignments, to illustrate how geotechnical recommendations are shaped by competing constraints. Drawing from her project experience, Monique will discuss the "life of a geotechnical recommendation"—from early project understanding and investigation planning, through field decisions, analysis, and documentation, to final deliverables that must be usable and understandable by multiple audiences within a transportation agency.

Key themes include balancing what the project team needs to know to make sound engineering decisions with what the client needs to move a project forward; managing budget and schedule without compromising the quality of subsurface characterization; and recognizing how investigation strategies, documentation practices, and interim communication influence downstream design, construction, and risk management. The presentation also explores the practical challenges of working for transportation agencies, where geotechnical work often serves many users across planning, permitting, design, construction, and oversight functions, each bringing different priorities to the same end goal.

Rather than focusing on isolated technical solutions or project management checklists, this talk emphasizes integration—how engineering, process, and people interact to shape project outcomes. Case histories are used to highlight decision points where thoughtful project management and clear technical reasoning helped maintain project momentum, supported informed decisions, and improved overall project delivery.

***Monique Anderson** is a Vice President at Shannon & Wilson with more than 35 years of experience in geotechnical engineering, most of it focused on transportation and infrastructure projects. Her work has included geotechnical design for bridges, embankments, foundations, retaining structures, and associated investigations. Her experience includes participation on large projects in the Puget Sound such as the Alaskan Way Viaduct and Seawall Replacement Program and SR 99 Bored Tunnel, the SR 520 Floating Bridge, the second Tacoma Narrows Bridge, and renovation of the Seattle Waterfront. In recent years, Monique has worked closely with the WSDOT State Geotechnical Office, providing technical and project management support on transportation projects statewide. She is known for her practical approach, clear communication, and attention to providing high-quality geotechnical service that supports informed project decisions.*

20 Years of Cast-in-Place Pile Design and Installation



Morgan NeSmith, PE, BC.GE
Director of Engineering
BERKEL

Abstract

Over the past two decades, cast-in-place deep foundations and ground improvement technologies – including Augered Cast-in-Place (ACIP) piles, Drilled Displacement (DD) piles, and Rigid Inclusions – have become increasingly prevalent solutions for supporting structures in various geologies across a wide range of project types. This presentation draws on more than 20 years of hands-on experience in the design, load testing, and construction of these systems to share practical lessons learned that extend beyond textbook methodology. Topics will include comments on design approaches, pile and/or RI selection, common pitfalls in recommendations and specifications, and performance and interpretation of static load tests. Attendees will leave with a practitioner's perspective on selecting, designing, and verifying these foundation systems, informed by real project experience rather than idealized conditions.

Morgan NeSmith *is a Georgia Tech graduate with 25 years of experience in geotechnical contracting and consulting, starting with remote and offshore work in the Middle East, Western Africa, and Asia. Since 2004, he has specialized in the design and installation of cast-in-place piles and ground improvement systems for Berkel. He is a Diplomate of the Academy of Geo-Professionals and a trustee and current secretary of the Deep Foundations Institute (DFI) where he is also a past chair of the ACIP and DD Pile Committee. In 2017, he was presented with the DFI President's Award, which recognizes the efforts and service of DFI members to advance the Institute's work.*

GeoVirginia 2026 October 19-21, 2026

LIST OF SPEAKERS

	**Duncan C. Wyllie, PhD, PE** Principal *Wyllie & Norrish Rock Engineers*		**Amy B. Cerato, PhD, PE** Rapp Foundation Presidential Professor University of Oklahoma
	**Bryan P. Sweeney, PhD, PE, BC.GE** Senior Vice President *Haley & Aldrich, Inc.*		**Erol Tutumluer, PhD, Dist. M. ASCE** **Keynote Speaker** Abel Bliss Professor of Engineering *University of Illinois Urbana-Champaign*
	**Mike Mooney, PhD, PE** Grewcock Distinguished Chair Professor, Civil and Environmental Engineering | Mechanical Engineering *Colorado School of Mines*		**Peggy Hagerty Duffy, PE, BC.GE** Executive Director/President *ADSC/Hagerty Engineering*
	**Kathleen Olden Barnes, Esquire** Senior Partner *Watt Tieder Hoffar & Fitzgerald, LLP*		**Yazen Khasawneh PhD, PE** Associate Teaching Professor *Department of Civil and Environmental Engineering and Earth Sciences, University of Notre Dame*
	**Spencer Ness, PE, M. ASCE** PhD Candidate *University of Notre Dame* Project Engineer *Terracon Consultants*		**Mazen Adib, PhD, PE, GE** Principal Geotechnical Engineer *Fugro USA*
	**Monique Anderson, PE** Vice President and Geotechnical Engineer *Shannon & Wilson*		**Morgan NeSmith, PE, BC.GE** Director of Engineering *BERKEL*

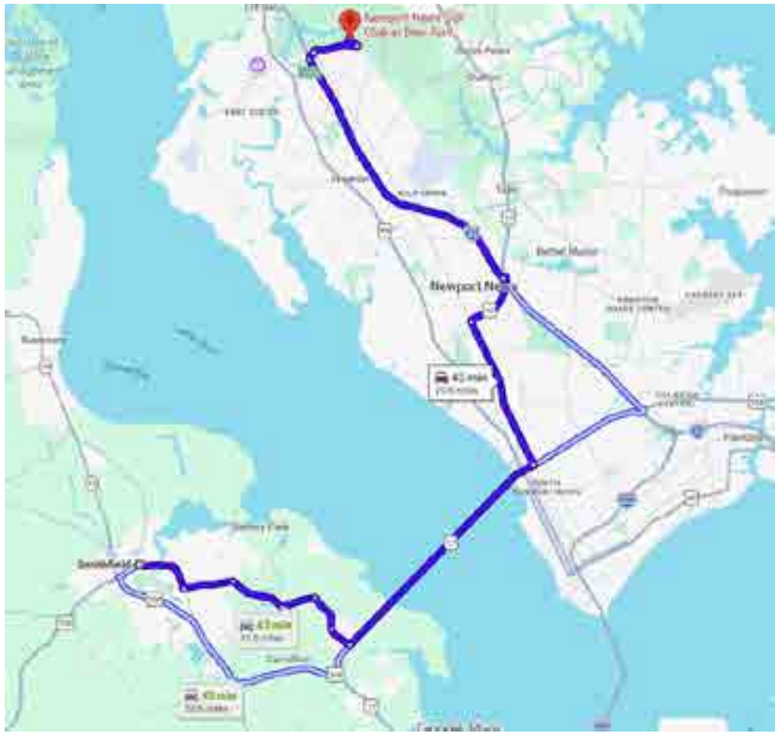
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October 19-21, 2026

LOCATION MAPS

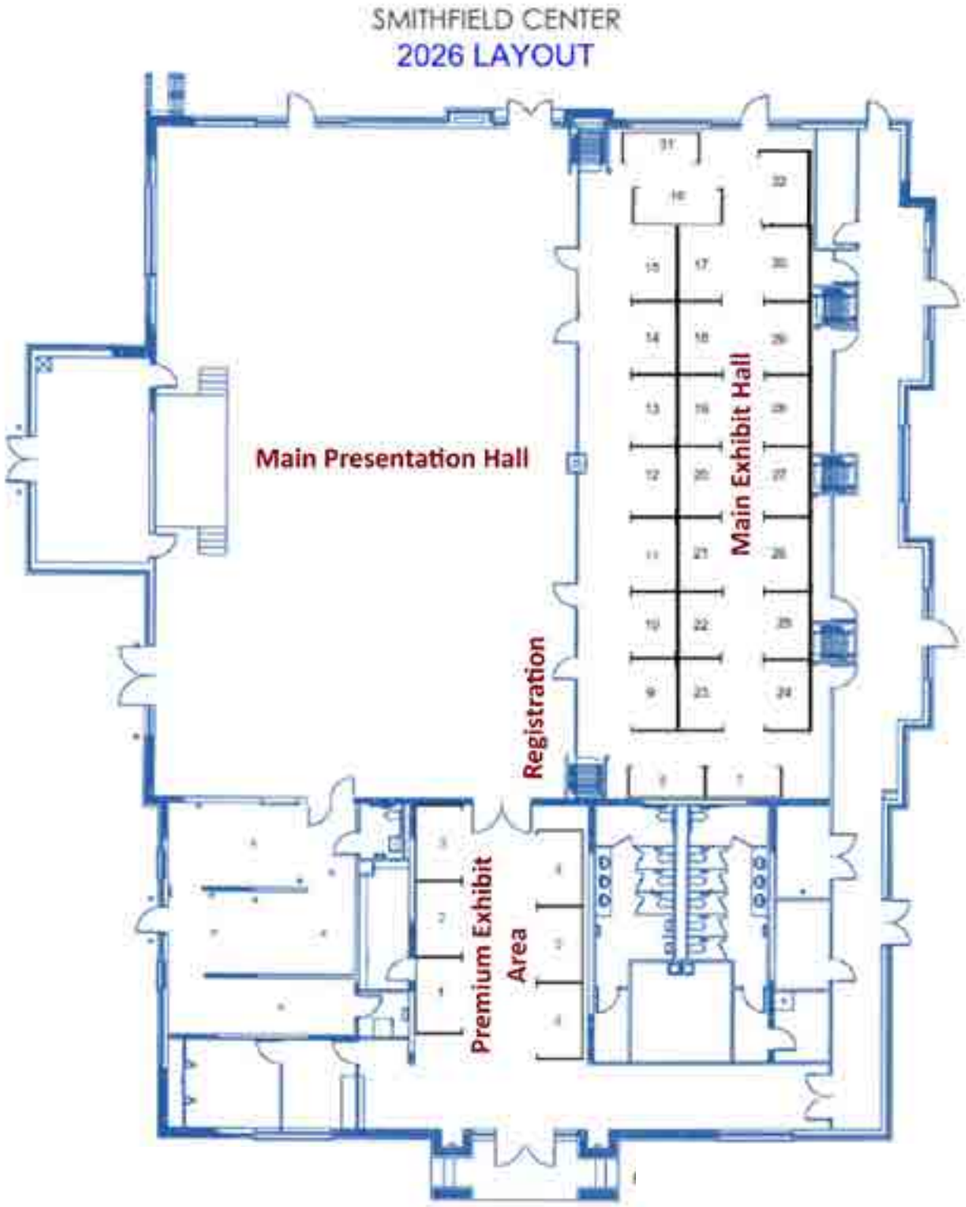




Smithfield Center, Smithfield Inn, and Smithfield Station Locations

Directions from Smithfield Center to Newport News Golf Club at Deer Run

EXHIBITOR LAYOUT



GeoVirginia 2026 October 19-21, 2026

LIST OF EXHIBITORS

Booth	Company	Booth	Company
1	InSitu Soil Testing, LC	17	Michels
2	Froehling & Robertson	18	Catawba Valley Engineering & Testing
3	SEQ Drilling, Inc.	19	Stable Ground In-Situ, LLC
4	Keller	20	River Shore Marine
5	ICOP (formerly GeoStructures)	21	Connelly & Associates, Inc.
6	Menard	22	Wurster Betterground
7	Tensar	23	Williams Form Engineering
8	GRL Engineers, Inc. / Pile Dynamics, Inc.	24	CJ Geo
9	Wagman Heavy Civil, Inc.	25	Dulles Geotechnical and Materials Testing
10	NCFI Geotechnical	26	GeoDin / Fugro
11	ECS Mid-Atlantic, LLC	27	Ischebeck USA, Inc.
12	Conetec	28	Subsurface Constructors, Inc.
13	Berkel	29	Geoquest USA
14	DuroTerra	30	Hillis-Carnes Engineering Associates
15	Morris Shea	31	Orica Digital Solutions
16	Aero Aggregates	32	Subsurface Construction Company, LLC

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CLARK FOUNDATIONS

Steele Foundation Design & Construction

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MONDAY EVENING RECEPTION

CATAWBA VALLEY ENGINEERING & TESTING

KEYNOTE SPEAKER

ECS

TUESDAY MORNING BREAK

GEO5 Authorized Partner DGMTS

WEDNESDAY MORNING BREAK

H&P HURT & PROFFITT

TUESDAY AFTERNOON BREAK

BOB TAYLOR ENGINEERING, INC.

GEOVIRGINIA CAKE

WAGMAN
General Construction | Heavy Civil | Geotechnical

TUESDAY EVENING DINNER

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Poolside Cabana



In-Situ Soil Testing, L.C.

SEQ DRILLING

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Poolside Cottage

RIVERSHORE MARINE INC