



# STGEC 2009 Conference Program

## 41<sup>st</sup> Southeastern Transportation Geotechnical Engineering Conference

Conference Meeting Room: **Azalea** - 1st Floor, Lower Lobby Level

Lunch/Dinner Room: **Cape Fear Ballroom**

Exhibitor Room: **Magnolia / Dogwood / Camellia**

### Professional Development Hour:

Attendees may claim up to **17.0 PDHs**.

Attendees are responsible for keeping record of how many presentations attended.

## MONDAY, NOVEMBER 2, 2009

- 2:00 pm - 5:30 pm REGISTRATION  
2:00 pm - 8:00 pm Exhibitor Setup  
6:00 pm - 8:00 pm Ice Breaker Reception (Azalea)

## TUESDAY, NOVEMBER 3, 2009

- 7:00 am - 4:00 pm REGISTRATION  
7:00 am - 8:00 am Breakfast in Exhibitor Area  
8:00 am - 8:30 am **Opening Ceremonies and Welcome**  
Guest Speaker: Mr. Terry R. Gibson, State Highway Administrator, NCDOT
- 8:30 am - 10:00 am Session 1: Deep Foundations, DIGGS**  
1.50 PDHs Paper No. **Moderator: Thomas Scruggs, Georgia DOT**
- 1012 **Soil-Pile Group Interaction without P-Multipliers**  
Mohamed Ashour, University of Alabama in Huntsville
- 1028 **FB-MultiPier: Nonlinear Dynamic Analysis and Design of Deep Foundations**  
Marc Hoyt, N.C. State University; Jae Chung, University of Florida
- 1027 **DIGGS: Digital Interchange for Geotechnical and GeoEnvironmental Specialists**  
Marc Hoyt, N.C. State University
- 1052 **Case Studies of Pile Driving Issues in Louisiana**  
Jeff Brown, Louisiana DOT
- 10:00 am - 10:30 am Refreshment Break in Exhibitor Area



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- 10:30 am - 12:00 pm**    **Session 2: Unknown Foundations, Non-Destructive Evaluation**  
1.50 PDHs
- 1058    **Risk Based Management Approach for Unknown Foundation in North Carolina**  
Mohammed A. Mulla, Nadia A. Al-Dhalimy, NCDOT
- 1019    **Re-Classifying Bridges with Unknown Foundations**  
Sayed M. Sayed, GCI Inc.; Hisham N. Sunna, Ayres Associates, Inc.; Pamela R. Moore, GCI Inc.
- 1015    **Cross-hole Sonic Logging (CSL) of Drilled Shafts for the Chickamauga Lock Replacement: A Summary of Findings for Future Planning**  
Scott Barrentine, Aquaterra Engineering, LLC
- 1034    **Evaluating the Integrity of the Existing Ohio River Bridge Piers for the Proposed US 421 Milton-Madison Superstructure Replacement Project**  
Bart Asher, Kentucky Transportation Cabinet
- 12:00 pm - 1:25 pm**    **Lunch – Provided (Cape Fear Ballroom)**
- 12:30 pm - 1:15 pm**    **Lunch Presentation**
- 1009    **Deep Foundations and Accelerated Construction with Design-Build**  
Dan Brown, Dan Brown and Associates
- Design-Build Panel Discussion**  
Dan Brown, Dan Brown and Associates; Victor Barbour, NCDOT
- 1:25 pm - 3:10 pm**    **Session 3: Subsurface Investigation, Geophysical Survey, Environmental**  
1.75 PDHs
- 1038    **Environmentally Sensitive Subsurface Exploration Experiences from the InterCounty Connector, Contract A**  
Chad C. Mayers, Ken Derrenbacher, Schnabel Engineering; Jeff Walton, Corman Construction Company
- 1032    **New Geophysical Surveying Technology and Methods**  
Craig M. Silvanic, Dan Adkins, GEL Geophysics LLC.
- 1054    **Geophysical Surveys Address Concerns Raised by Sinkholes Next to A Busy Two-Lane Highway**  
Edward Billington, Jeremy Strohmeier, James Whitt, Schnabel Engineering; Cyrus Parker, NCDOT
- 1023    **DOT Versus Toxaphene: Beneficial Reuse of Contaminated Soil**  
Matt Bramblett, Hart & Hickman, PC
- 1026    **Electron Acceptor Solution (EAS™) – Sulfate Enhanced Anaerobic Bioremediation**  
Sheri L. Knox, Jessica Keener, Solutions-IES



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- 3:10 pm - 3:30 pm Refreshment Break in Exhibitor Area
- 3:30 pm - 5:15 pm** **Session 4:, Geotechnical Engineering Discipline, Drilled Shaft Construction, Geophysical Survey, Geotechnical Database**  
Moderator: Sam Williams, Tennessee DOT
- 1.75 PDHs
- 1047 **A Primer on the Implications of Regional Climate Change Science for the Geotechnical Engineering Discipline**  
Kevin Moody, Benjamin S. Rivers, Federal Highway Administration
- 1030 **Identification of Drilled Shaft Construction Problems**  
Ching-Nien Tsai, Louisiana DOT
- 1016 **Automated Laboratory Data Collection and Database Management**  
John D. Godfrey, Jr., Gregory W. Brubaker,  
K.S. Ware & Associates, LLC
- 1056 **Mapping Surface and Subsurface Karst : SR 71 South Knoxville Blvd. Extension, Knox County, Tennessee**  
Harry L. Moore, Golder Associates/Tennessee DOT – Retired;  
Lori McDowell, Tennessee DOT
- 1045 **Geotechnical Data Management – Lessons Learned**  
Scott L. Deaton, Dataforensics, LLC
- 6:00 pm - 6:30 pm Boarding
- 6:30 pm** **No Boarding after 6:30 pm**
- 6:30 pm - 8:30 pm Dinner – Provided

## WEDNESDAY, NOVEMBER 4, 2009

- 7:00 am - 12:00 pm REGISTRATION
- 7:00 am - 8:00 pm Breakfast in Exhibitor Area
- 8:00 am - 9:45 am** **Session 5: LRFD, Load Tests**  
Moderator: Sean Ferguson, Mississippi DOT
- 1.75 PDHs
- 1050 **LRFD for Dummies**  
Elizabeth M. Smith, Terracon Consultants, Inc.
- 1049 **LRFD in Practice – A Case Study of What the Future Holds for Foundation Designers**  
W. Robert Thompson III, Paul J. Axtell, Dan Brown and Associates;  
Elizabeth M. Smith, Terracon Consultants, Inc.
- 1008 **Revised 2009 FHWA Drilled Shaft Design and Construction Manual and Short Course**  
Dan Brown, Dan Brown and Associates



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1036 **High Strain Dynamic Pile Testing – The Subtle Benefits**  
Gregory J. Canivan, S&ME, Inc

1035 **A Case for Design-Phase Foundation Testing Programs**  
William M. Camp III, S&ME, Inc

9:45 am - 10:15 am Refreshment Break in Exhibitor Area

**10:15 am - 12:00 pm Session 6: SPT Hammer Energy, Compaction, Liquefaction Potential**

1.75 PDHs Moderator: Milledge (Mickey) Wilson, South Carolina DOT

1018 **Energy Efficiency and Rod Length Effect in SPT Hammers**  
Michael Valiquette, NCDOT; Roy Borden, Brent Robinson,  
N.C. State University

1041 **The Benefits and Pitfalls of Automatic Hammer Operation**  
Stephen Criscenzo, P.E., MACTEC Engineering and Consulting, Inc.

1042 **Energy Efficiency for Standard Penetration Tests with Automatic Hammers**  
Steve Kiser, P.E., MACTEC Engineering and Consulting, Inc.

1051 **Roller-Compacted Concrete Pavements in the U.S.**  
Fares Y. Abdo, Tim McConnell, Portland Cement Association

1046 **Comparing SPT and Shear Wave Velocity Approaches for Evaluation of Liquefaction Potential in Northeast Arkansas**  
Ashraf Elsayed, Arkansas State University; Shahram Pezeshk,  
The University of Memphis

12:00 pm - 1:30 pm Lunch – Provided (Cape Fear Ballroom)

**12:15 pm - 1:15 pm Lunch Presentations**

1024 **The Second Strategic Highway Research Program: SHRP 2**  
Jerry A. DiMaggio, TRB

1022 **FHWA Geotechnical Program – Activities and Updates**  
Benjamin S. Rivers, FHWA

**1:30 pm - 3:15 pm Session 7: NCHRP Researches, Retaining Walls**

1.75 PDHs Moderator: Bart Asher, Kentucky Transportation Cabinet

1007 **Scour at Bridge Foundations on Rock: Status of NCHRP Project 24-29**  
Jeffrey R. Keaton, MACTEC Engineering and Consulting, Inc.;  
Su K. Mishra, Paul E. Clopper, Ayres Associates, Inc.

1013 **NCHRP 4-34 - Aggregate Characterization by LADAR**  
Linbing Wang, Virginia Polytechnic Institute and State University



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- 1031 **LRFD Metal Loss and Service-Life Strength Reductions Factors for Metal Reinforced Systems in Geotechnical Applications - NCHRP 24-28 – Project Update**  
Kenneth L. Fishman, McMahon & Mann Consulting Engineers
- 1003 **NCDOT's Experience with Precast Gravity Retaining Walls**  
Scott A. Hidden, NCDOT
- 1055 **Design and Construction Challenges for the I-40 Mile Marker 1 Retaining Wall**  
Craig Smith, Hayward Baker Inc.; Eddy Chu, EKC Engineering; Gary Brill, Geo Environmental Associates

3:15 pm - 3:45 pm Refreshment Break in Exhibitor Area

**3:45 pm - 5:30 pm** **Session 8: Soil Properties, Deep Foundations, Embankment**  
1.75 PDHs Moderator: Christopher Wald, Arkansas Highway and Transportation Department

- 1005 **Validity of CPT Models in Predicting Soil Properties of North Carolina Soils**  
Njoroge W. Wainaina, NCDOT
- 1044 **Micropile Solutions to Challenging Subsurface Conditions in Transportation Projects**  
Michael J. Marasa, Hayward Baker Inc.
- 1029 **Geo-Design Applications in Karst Environments**  
William D. Spencer, Jaye Richardson, AMEC Earth & Environmental, Inc.
- 1053 **Use of Controlled Modulus Columns for the Support of MSE Walls**  
Frederic Masse, DGI-Menard, Inc.
- 1057 **Taxiway Embankment over Soft Ground Using Staged Construction**  
Richard C. Wells, Xavier C. Barrett, Thomas Wells, Kleinfelder

**5:30 pm** **Steering Committee Meeting**  
Meeting Room: TBA

6:00 pm 7:00 pm Social Hour  
7:00 pm 9:00 pm Banquet – Provided (Cape Fear Ballroom)

**Banquet Presentation**  
**Driving Down the Highway of the Road Ahead**  
Jim Kellenburger, P.E., Kellenberger Engineering, Inc.



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## THURSDAY, NOVEMBER 5, 2009

7:00 am - 8:00 am Breakfast in Exhibitor Area

- 8:00 am - 9:45 am** **Session 9: MSE Wall, Landslide, Rock Slope Stabilization**  
1.75 PDHs  
**Moderator: Raja El-Awar, FES, Inc.**
- 1043 **Method of Analysis to Determine the Point of Fixity for Piles in MSEW Abutments**  
Muhammad Shafiqur Rahman, MACTEC Engineering and Consulting
- 1014 **Remediation of Cat Gap Road Landslide**  
Pieter J. DePree, Gary W. Rhodes, MACTEC Engineering and Consulting; Jeff Holloway, Will Brown, Natural Resources Conservation Service
- 1048 **Stress and Time Dependent Bond Strength Behavior in Ballistic Soil Nails from Various Landslide Regimes**  
Colby E. Barrett, Timothy Ruckman, Soil Nail Launcher, Inc.; John Steward, U.S. Forest Service (Retired)
- 1006 **Rock Slope Stabilization with Polyurethane Resin “Rock Glue” Helps Preserve Aesthetics along Scenic Federal Roadways**  
Brian K. Banks, George Aristorenas, Schnabel Engineering; Khalid Mohamed, Mounir Abouzakhm, FHWA Eastern Federal Lands Highway Division
- 1040 **Rock Slope Stabilization Projects in Letchworth State Park, Portageville, New York**  
Michael J. Mann, McMahan & Mann Consulting Engineers; Ken Wojtkowski, TVGA Consultants; Donald Owens, Earth Dimensions, Inc.

9:45 am - 10:15 am Refreshment Break in Exhibitor Area

- 10:15 am - 12:00 pm** **Session 10: Light Weight Fills, Soil Improvement and Stabilization**  
1.75 PDHs  
**Moderator: Njoroge Wainaina, North Carolina DOT**
- 1021 **Unconventional Fills, or You Put What In My Roadway?!**  
Thomas Scruggs, Georgia Department of Transportation
- 1039 **Remediation of Soft Sensitive Clay Using the Dry Mix Method**  
Michael J. Mann, Shawn W. Logan, McMahan & Mann Consulting Engineers; Michael L. Grant, Hayward Baker Inc.; Jonathan Kolber, Army Corps of Engineers
- 1010 **Geofoam**  
Nico Sutmoller, Insulfoam, LLC.
- 1037 **Embankment Construction on Soft Ground**  
Aaron D. Goldberg, S&ME, Inc.
- 1033 **Use of Lightweight Aggregate Fill at Tranters Creek Bridge Approach**  
Thein T. Zan, NCDOT



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**12:00 pm**

**Closing Remarks**

Njoroge W. Wainaina, State Geotechnical Engineer, NCDOT

**12:10 pm**

**Conference Adjourns**