

POSTER SESSION

Monday, February 27, 2006 / 5:30 - 7:00pm, Exhibit Hall - Grand Hall West

SENSING METHODS
AND DEVICESHow to Take a Truly Representative
Environmental Sample

- John P. Jent, BS, MS
US Army Corps of Engrs, Louisville, KY, USA
- Richard Callahan & Roy Levenger
MKM Engineers, Inc., Ravenna, OH, USA
- Eric Ellis
Uniontown, OH, USA

High Frequency Data Acquisition
System for Field Measurement of
Hydraulic Conductivity in a Sand
Aquifer

- Phil Dunaj, BSCE; Don J DeGroot Sc.D., P.E. & David W Ostendorf Sc.D., P.E.
University of Massachusetts Amherst, Amherst, MA, USA

Estimation of Bare Soil Evaporation
Using Fuzzy Modeling

- Dylan Charles Harp, P.E.; John Stormont; Mahmoud Reda Taha; Enrique Farfan & Julie Coonrod
University of New Mexico, Albuquerque, NM, USA

Hydraulic Conductivity: Comparison
Between Field Testing and Indirect
Techniques

- Amina A. El-Daly, B.Sc., M.Sc.
Golden Consultations, Giza, Cairo, Egypt
- Nasr O. Farag, B.Sc., M.Sc., Ph.D.
Housing and Building Research Center, Giza, Cairo, Egypt

Static Cone Penetration Resistance
of Cemented Sands: A Laboratory
Investigation

- Waddah Akili, P.E.; Geotechnical Engineering, Ames, IA, USA

Improved Soil Property
Classification Through Automated
Triaxial Stress Path Testing

- Derrick D. Dasenbrock, P.E.
Minnesota Dept. of Transportation, Maplewood, MN, USA
- Rachid Hankour, Ph.D.
Geocomp Corporation, Boxborough, MA, USA

Processing, Soil Profiling and Pile
Capacity Analysis From CPTu Data
By "UNICONE"

- Abolfazl Eslami
University of Gilan, Rasht, Gilan, Iran
- Bengt H. Fellenius
Calgary, Alberta, Canada

Spatial Distribution of Electric Cone
Tip Resistance Measurements with
Depth for a Bureson Clay Site

- James B. Nevels Jr, Ph.D., P.E.
Oklahoma Department of Transportation, Oklahoma City, OK, USA

Hybrid Penetration for Geotechnical
Site Investigation

- Stephen P. Farrington, P.E. & James D Shinn II, P.E.
Applied Research Associates, Inc., South Royalton, VT, USA

Subsurface Investigation Using
an Unique Hydraulically Operated
Jackhammer and a Flow Through
Sampler

- Arvind Phukan, Ph.D., P.E.
Phukan Inc., Anchorage, AK, USA

Evaluation of Static Liquefaction
Susceptibility of Sands With Triaxial
Test

- Selim Altun, Ph.D., Burak Ahmet Goktepe
Ege University, Izmir, Turkey

A Multi Piezo Friction Attachment
for Penetration Testing

- Gregory Hebel, Ph.D.
Golder Associates, Inc., Atlanta, GA, USA
- David Frost Ph.D., P.E., P.Eng.
Georgia Tech Savannah, Savannah, GA, USA

Advanced Processing of Time

Domain Reflectometry for Improved
Slope Stability Monitoring

- Stephen Farrington, P.E.
Applied Research Associates, Inc., South Royalton, VT, USA
- Shad M. Sargand, Ph.D., P.E.
Ohio University, Athens, OH, USA

Ground Motion Detection in Rural
Areas Using Satellite Interferometry

- Chris Duffell, B.Sc., CEng, MICE
Highways Agency, Manchester, UK
- Matthew Willis & Mark Rudrum, BEng, M.Sc., DIC, CEng, MICE, MAPM
Arup, London, UK
- Mark Haynes
Nigel Press Associates, Edenbridge, Kent, UK

Opportunities and Impediments to
the Use of Three-dimensional Laser
Scanning for Adjacent Excavations

- Debra F. Laefer, Ph.D.; Hamish Carr & Sean Morrish
University College Dublin, Dublin, Ireland
- Erol Kalkan
University of California, Davis, CA, USA

Geophysical Surveying & Data
Simulation Application to
Geotechnical Investigations - A Cost
Effective Approach for Developing
Economical Foundation Engineering
Design Criteria

- Amin A. Tomeh, P.E.; Sam Alyateem, P.E., MS & Hameed Malik, Ph.D., P.E.
Matrix Engineering Group, Inc., Norcross, GA, USA
- Billy Malone
DeKalb County, Georgia, Decatur, GA, USA

Underwater Application of Spectral
Analysis of Surface Waves

- Lorenzo Paoletti & Margherita Maraschini
D'Appolonia S.p.A., Genova, Italy
- Edouard Mouton
SismOcean S.A.S., Sete, France

Implementation of Artificial Neural
Networks to Automate SASW
Inversion

- Hamid Shirazi
Applied Research Associates, Ellicott City, MD, USA
- Soheil Nazarian, Ph.D., P.E. & Imad Abdallah
University of Texas at El Paso, El Paso, TX, USA

DATA SYNTHESIS
AND MANAGEMENTBenefits of On-Line Geotechnical
Database

- Zorica Markovic
MEG Consulting Ltd, Vancouver, British Columbia, Canada
- Dejan Lekic
Agency for Environmental Protection of Republic of Serbia, Belgrade, Serbia, Yugoslavia

Landslide Hazard Rating System in
Ohio DOT

- Robert Y. Liang, Ph.D., P.E. & Gridsana Pensomboon
University of Akron, Akron, OH, USA
- Gene Geiger & Kirk Beach
Ohio Department of Transportation, Columbus, OH, USA

Geographic Information System
(GIS) Use in Geotechnical
Engineering

- Roch S. V. Player, P.E.
CH2M HILL, Everett, WA, USA

GIS Visualization of Complex
Geoscientific Data from the Björkö
Structure

- Tzu-chun Chuang
Taiwan Construction Research Institute, Taipei, Taiwan
- Herbert Henkel
Royal Institute of Technology, Stockholm, Sweden

The Development and Application of
The Slope Management System

- W. F. Lee & C. Y. Wei
Taiwan Construction Research Institute, Taipei, Taiwan
- H. J. Liao & R. H. Chen
National Taiwan University of Science and Technology, Taipei, Taiwan
- Y. M. Huang
University of Washington, Seattle, WA, USA

Parameter Estimation Using a
Counterpropagation Artificial Neural
Network with Multiple Types of Data

- Lance Besaw, M.S. & Donna M. Rizzo
University of Vermont, Burlington, VT, USA

Interpolation Methods and Neural
Networks Applied to Geotechnical
Mapping of a Brazilian Port Site

- Andrea Sell Dyminski, Ph.D.; Alessandro Morales Kormann, Ph.D. & Eduardo Parente Ribeiro
Federal University of Parana, Curitiba, PR, Brazil
- Dawn Shuttle & John Howie
University of British Columbia, Vancouver, BC, Canada

Bootstrap Estimation of Sample
Autocorrelation Functions

- Kok-Kwang Phoon, Ph.D.
National University of Singapore, Singapore

Some Observations on Assessment
of Gaussianity for Correlated
Profiles

- Marco Uzielli, Ph.D.
Firenze, Italy
- Kok-Kwang Phoon
National University of Singapore, Singapore

A Hybrid Optimization Algorithm for
Downhole Seismogram Inversion:
Theory and Applications

- Dominic Assimaki, Sc.D.
Georgia Institute of Technology, Atlanta, GA, USA
- Jamison Steidl, Ph.D.
University of California, Santa Barbara, CA, USA

System Reliability of Cantilever Retaining Walls with Correlated Failure Modes

- Ioannis E. Zevgolis & Philippe L. Bourdeau, P.E.
Purdue University, West Lafayette, IN, USA

Advanced Monitoring Systems: A Tale of Trains and an Egyptian Wall

- Allen Cadden, P.E.; Jesus Gomez, Ph.D., P.E. & Carlos Englert
Schnabel Engineering, Inc., West Chester, PA, USA

The Role of C_{ω} in Geo Informatics Systems

- N. O. Nawari, Ph.D, PE
Kent State University, Kent, OH, USA

The Collection and Management of Geotechnical & Geoenvironmental Data

- Stephen Walthall, Cgeol
Bechtel Corporation, Warrington, Cheshire, UK
- Matthew K. Waterman, B.Sc.
Bechtel Corporation, San Francisco, CA, USA

Improving Geotechnical Laboratory Performance with Technology

- Gary T. Torosian & W. Allen Marr, P.E.
GeoTesting Express, Boxborough, MA, USA

Web Based Environmental Data Analysis

- Richard M. Pawlowicz & Mitra Fattahipour, Ph.D.
Bechtel National, Inc., San Diego, CA,
- Alex Richardson; Trevor Rowe & Roelof Versteeg
Idaho National Laboratory, Idaho Falls, ID, USA

Design of Instrumentation for the Siah Bishe Concrete Face Rockfill Dams

- Hamid Fallah
Kayson Company, Tehran, Iran
- Haji Hassani
Iran Water & Power Resources Development Company, Tehran, Iran
- R. Peter Brenner
Electrowatt-Ekono, Ltd., ZURICH, Kanton Zurich, Switzerland

Constructing and Maintaining the Port of NY and NJ, USA: Operational and Management Challenges in Moving from Disposal to Beneficial Use

- W. Scott Douglas
NJDOT, Trenton, NJ, USA

- Peter Dunlop
Gahagan and Bryant Associates, Inc., Wilmington, DE, USA
- Farhad Jafari
Soiltechnik, Basking Ridge, NJ, USA

Optimized Dredging Plans for an Open Water Disposal Site Using NLP

- Haleh Valian; Trefor Williams & Mohsen Jafari
Rutgers University, Piscataway, NJ, USA

Permanent and Resilient

Deformations of a Dry Sand Under Repeated Compressive Stress

- Waddah Akili, Ph.D., P.E.
Geotechnical Engineering, Ames, IA, USA

Application of the Empirical Mode Decomposition to Pavement Profile Analysis

- Nii O. Attoh-Okine; Albert Y Ayenu-Prah, Jr. & Stephen A. Mensah
University of Delaware, Newark, DE, USA

NUMERICAL MODELING AND ANALYSIS

Symmetric Indefinite

Preconditioners for FE Solution of

Biot's Consolidation Problem

- Chen Xi, Ph.D.; Kok-Kwang Phoon & Kim-Chuan Toh
National University of Singapore, Singapore

Three-dimensional Modeling of Excavation Sequences

- Richard Finno
Northwestern University, Evanston, IL, USA
- Tanner Blackburn
Texas A&M University, College Station, TX, USA

Large Scale Numerical

Simulation via Parallelization and Reconfigurable Computing Hardware

- Erfan Nezami; Dawei Zhao; Youssef Hashash; Gregory Bauer; David Raila & Jamshid Ghaboussi
University of Illinois at Urbana-Champaign, Urbana, IL, USA

Finite Element Modeling Approach for Flexible Pavements with Geosynthetics

- Isaac Howard
University of Arkansas, Fayetteville, AR, USA

- Kimberly Anne Warren
University of North Carolina at Charlotte, Charlotte, NC, USA

An Energy-based Constitutive Framework for Modeling of Asphalt Concrete: Theoretical, Experimental and Numerical Aspects

- Tom Scarpas, Ph.D.; Cor Kasbergen, M.Sc.
Delft University of Technology, Delft, Zuid-Holland, Netherlands

Spatial Clustering for Determining Economical Highway Pavement Let Projects

- Yichang (James) Tsai, Ph.D.
Georgia Institute of Technology, Atlanta, GA, USA
- Chien-Tai Yang Ph.D.
Earth Mechanics, Inc, Fountain Valley, CA, USA
- Zhaohua Wang, Ph.D.
Georgia Tech, Atlanta, GA, USA

Validation of Numerical Evaluation of Dynamic Response of Lumped Parameter Systems Using Runge-Kutta-Nyström (R-K-N) Method

- Essam F. Tawfik, P.E.
Schnabel Engineering, Leesburg, VA, USA

Modeling of Strain Rate Effects on Clay in Simple Shear

- Byoung Chan Jung & Giovanna Biscontin
Texas A&M, College Station, TX, USA

Some Stability Characteristics of Three-Invariant Plasticity Models

- K. Medji Sama, Ph.D.
Exponent Failure Analysis Assocs, Los Angeles, CA, USA

Anisotropic Properties of MSE Geocomposite

- Nien-Yin Chang Ph.D., P.E. & Mohammad Abu-Hassan
University of Colorado at Denver and Health Sciences Center, Denver, CO, USA

Characterizing Shear Moduli

Reduction in Soils Cyclic Behavior

- Muhsin Elie Rahhal, Ph.D.
Université Saint Joseph, Beirut, Lebanon
- Guy Lefebvre
Université de Sherbrooke, Sherbrooke, Quebec, Canada

Time Rate of Heave Prediction for Expansive Soils

- Daniel D Overton, P.E. & Kuo-Chieh Chao P.E.; MFG, Inc., Fort Collins, CO, USA
- John D. Nelson
Colorado State University, Fort Collins, CO, USA

Quantification of the Erosive Capacity of Water

- George William Annandale, P.E.
Engineering and Hydrosystems Inc., Littleton, Colorado, USA

Meander Migration: Some Experimental Results

- P. -H. Yeh; N. Park; W. Wang; K. -A. Chang;
H. -C. Chen; & Jean-Louis Briaud, Ph.D., P.E.
Texas A&M University, College Station, TX, USA

A Probabilistic Analysis System for Determining Internal/Interface Shear Strength

- Bo Gao, Ph.D.; Rafael Ospina, P.E.; Henry Mock & Claudia Moeller, P.E.
Golder Associates, Inc., Atlanta, GA, USA

Numerical Modeling and Analysis of a Large Mat Foundation Supported Above a Varved Silt and Clay Formation of New York City

- Hiren J Shah, P.E.; Siang-Huat Goh & Hugh S Lacy, P.E.
Mueser Rutledge Cons. Engrs., New York, NY, USA
- Donald Kellogg
Hazen & Sawyer, New York, NY, USA

Parametric Study on the Resilient Response of Ballasted Railway Track Substructure Using Numerical Modeling

- Mohamed Amin Shahin & Buddhima Indraratna; University of Wollongong, Wollongong City, NSW, Australia

Numerical Modeling of Seismic Soil-Structure Interaction for the Cut-and-Cover Structure BART Warm Spring Extension

- Jean Habimana, Ph.D., P.E.
Parsons Brinckerhoff Inc, San Francisco, CA, USA
- Ariyaputhirar Balakrishnan, Ph.D., P.E. & Shahriar Vahdani, Ph.D., P.E.
Fugro West, Inc., Oakland, CA, USA

Foundation Load-Displacement Response from Small-Strain Stiffness

- Amr Elhakim
Tensor Corporation, Atlanta, GA, USA
- Paul W. Mayne, Ph.D., P.E.
Georgia Institute of Technology, Atlanta, GA, USA

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**Does the Output Mean Anything?
Developing and Checking Soil
Structure Interaction Models**

- o Kevin Joseph DiRocco P.E. & Mike Peter Walker P.E.
GEI Consultants Inc, Winchester, MA, USA

**An Internet Application for
Frequency Domain Level Ground
Amplification Studies**

- o Alfredo Urzua & David Rose
Prototype Engineering, Inc., Winchester, MA, USA
- o John T. Christian
Waban, MA, USA

**Representing Internal Bracing
Systems in 3-D Models of Deep
Excavations**

- o J. Tanner Blackburn; Texas A&M University, College Station, TX, USA
- o Richard J. Finno, Ph.D., P.E.
Northwestern University, Evanston, IL, USA

**Numerical Modeling and
Performance of a Retention System
at the Virginia State Capitol**

- o Nasser Massoudi, Ph.D.
URS Corporation, Gaithersburg, MD, USA

**Dynamic And Economic Design of
Rigid Retaining Wall**

- o Y. Wu
Geotechnology, Overland Park, KS, USA
- o Shamsheer Prakash
University of Missouri, Rolla, MO, USA
- o V. K. Puri
Southern Illinois University, Carbondale, IL, USA

**Comparison of 2D and 3D Seepage
Model Results for Excavation Near
Levee Toe**

- o Rebecca L. Money P.E.
Kleinfelder, Inc., Sacramento, CA, USA

**A 3D FEM Model for Laterally
Loaded Drilled Shafts in Rock**

- o Ke Yang & Robert Liang
University of Akron, Akron, OH, USA

**Prediction of Lateral Response of
Nonlinear Soil-Pile group Interaction**

- o Hossein Tahghighi & Kazuo Konagai
Tokyo University, Tokyo, Japan

**Finite Element Model of Dynamic
Pile Test Using Embedded
Transducers**

- o Gyimah Kasali, Ph.D., P.E., G.E.,
Rutherford & Chekene, San Francisco, CA, USA
- o John Lemke, P.E., G.E., Geodaq, Inc.,
Sacramento, CA, USA

- o Rami Jabakhanji, P.E. & Mounir Mabsout, Ph.D.
American University of Beirut, Riad El-Solh, Beirut, Lebanon

**Bearing Capacity of Shallow and
Deep Foundations from Cone Point
Resistance—A Scale Effect Approach**

- o Abolfazl Eslami, University of Gilan, Rasht, Gilan, Iran

**Monte Carlo Simulation and
Serviceability Resistance Factors
for Micropile Pullout**

- o Anil Misra, Ph.D. & Chih-Hung Chen
University of Missouri - Kansas City,
Kansas City, MO, USA
- o Lance Roberts, TranSystems Corporation,
Lenexa, KS, USA
- o Rajesh Oberoi, California Department of
Transportation, Oakland, CA, USA

**Application of Data Acquired
During Drilled Displacement Pile
Installation**

- o Willie M. NeSmith, P.E., Berkel & Co.
Contractors, Inc., Birmingham, AL, USA
- o W. Morgan NeSmith, Berkel & Co.
Contractors, Inc., Atlanta, GA, USA

**Kinematic Seismic Response of
Piles- Importance and Modeling**

- o Ahmad Irshad & Naeem Khan Akhtar
University of Engineering and Technology,
Peshawar, Pakistan

**Instrumentation, Monitoring, and
FEM Evaluation of Long-Term****Stability of a Bridge Abutment Slope**

- o Robert Y. Liang Ph.D., P.E. & Shuyu Liu
University of Akron, Akron, OH, USA

**Reactive Permeable Blankets for
Cleanup of Contaminated Liquids**

- o Milind Vishnu Khire, Ph.D., P.E. &
Emmanuel Pepprah
Michigan State University, E. Lansing,
MI, USA

**Effects of Loading Sequences on
Embankment Settlement and Its
Prediction**

- o Chuang Yu; Songyu Liu & Zhenshun Hong
Southeast University, Nanjing, China

**Jet Grouted Settlement Isolation
Wall at the Henry Ford Avenue
Grade Separation**

- o Allen M. Yourman Jr, P.E., G.E.;
Christopher M Diaz, P.E. & Gary K Gilbert,
P.E.
Diaz Yourman & Associates, Santa Ana,
CA, USA

**Numerical Simulation of Soil
Densification Using Vibro-Stone
Columns**

- o Thevachandran Shenthan &
Sabanayagam Thevanayagam
University at Buffalo, SUNY, Buffalo, NY,
USA
- o Geoffrey R Martin
University of Southern CA, Los Angeles,
CA, USA

**On Modeling Isolated Footings on
Reinforced Sand**

- o F. M. Abdrabbo; H. M. Abouseeda; K. E.
Gaaver & A. Z. Elwakil
Alexandria University, Alexandria, Egypt

**Composite Modulus of Composite
Foundation under Embankment**

- o Ding-Wen Zhang; Song-Yu Liu, Ph.D.;
Zhen-Shun Hong, Ph.D & Yong-Feng
Deng
Southeast University, Nanjing, China

**Improvement of Soft Clays Using
Vacuum-assisted Consolidation**

- o Cholachat Rujikaitkamjorn & Buddhima
Indraratna
University of Wollongong, Wollongong
City, NSW, Australia

**Modeling of Multi Layer Extensible
Geosynthetic-Reinforced Granular
Fill over Soft Soil**

- o Kousik Deb, ME; Sarvesh Chandra, Ph.D
& Prabir K. Basudhar, Ph.D.
Indian Institute of Technology Kanpur,
Kanpur, India

**Model-Based Uncertainty in Surface
Wave Inversion**

- o Glenn J. Rix
Georgia Institute of Technology, Atlanta,
GA, USA
- o Carlo G. Lai
EUCENTRE, Pavia, Italy

**SIMULATION AND
VISUAL ANALYSIS****Grow - A Digital Library for
Geotechnical Resources and a New
Learning Environment for Education**

- o Muniram Budhu, Ph.D., P.E.
University of Arizona, Tucson, AZ, USA

**Physical and Numerical Modeling of
Rock Joints and Slope Stability**

- o Sherif A. Elfass, Ph.D., P.E.; Reka Aczel;
Gary M. Norris, Ph.D., P.E. & Ellen
Jacobson, MBA
University of Nevada, Reno, NV, USA

**Use of Digital Photography to
Analyze Foil Strain Gages on
Geosynthetics**

- o Kimberly Anne Warren
University of North Carolina at Charlotte,
Charlotte, NC, USA
- o Isaac Howard
University of Arkansas, Fayetteville, AR,
USA
- o Jeremy Brooks
Garver Engineers, Little Rock, AR, USA