

May 29th

Past Proceedings: Fifth International Conference on Case Histories in Geotechnical Engineering (2004)

Multiple Authors

Follow this and additional works at: <http://scholarsmine.mst.edu/icchge>



Part of the [Geotechnical Engineering Commons](#)

Recommended Citation

Authors, Multiple, "Past Proceedings: Fifth International Conference on Case Histories in Geotechnical Engineering (2004)" (2010). *International Conference on Case Histories in Geotechnical Engineering*. 5.
<http://scholarsmine.mst.edu/icchge/7icchge/session09/5>

This Article - Conference proceedings is brought to you for free and open access by Scholars' Mine. It has been accepted for inclusion in International Conference on Case Histories in Geotechnical Engineering by an authorized administrator of Scholars' Mine. This work is protected by U. S. Copyright Law. Unauthorized use including reproduction for redistribution requires the permission of the copyright holder. For more information, please contact scholarsmine@mst.edu.



**FIFTH CASE HISTORIES
IN GEOTECHNICAL ENGINEERING
NEW YORK, NY APRIL 13-17, 2004**

**Table of Contents/Papers
CD-I**

STATE OF THE ART AND PRACTICE (SOAP) LECTURES

| | |
|---|---|
| Ralph B. Peck (USA) | Keynote - |
| W. D. Liam Finn (Japan/Canada) N. Fujita (Japan) | Behavior of Piles in Liquefiable Soils during Earthquakes: Analysis and Design Issues SOAP 1 |
| J. B. Burland (UK) | The Leaning Tower of Pisa-Revisited SOAP 2 |
| William Van Impe (Belgium) | Land Reclamation in the Singapore Area SOAP 3 Withdrawn |
| Harry G. Poulos (Australia) | Success and Failure in Predicting Pile Performance SOAP 4 |
| Kenji Ishihara M. Cubrinovski (Japan) | Case Studies of Pile Foundations Undergoing Lateral Spreading in Liquefied Deposits Soils SOAP 5 |
| Ilan Juran (USA) | Soil Improvement Case Studies SOAP 6 Withdrawn |
| George J. Tamaro (USA) | The World Trade Center “Bathtub,” a Case History SOAP 7 |
| John Lowe, III (USA) | Tarbela Dam, Geotechnical and Hydraulics Issues SOAP 8 Withdrawn |
| James K. Mitchell Richard A. Mitchell (USA) | Environmental Geotechnics: Two Case Histories SOAP 9 |
| G. A. Munfakh (USA) | Ground Improvement in Tunneling and Underground Construction Projects SOAP 10 Withdrawn due to sickness |



George Gazetas
Marios Apostolou
John Anastasopoulos
(Greece) Seismic Bearing Capacity, Failure and Overturning of ‘Terveler’
Building in Adapazari, 1999 SOAP 11

SPECIAL LECTURES

M. R. Madhav
(India)
Norihiko Miura
(Japan)
In Gul Choi
(Korea) Reclamations - Case Studies OSP 1

Sissy Nikolaou
(USA) Local Geology of New York City and its Effect on Seismic Ground
Motions OSP 2

J. David Rogers
Ronaldo Luna
(USA) Impact of Geographical Information Systems on Geotechnical
Engineering OSP 3

M. K. Yegian
(USA) Seismic Geotechnical Investigations of Bridges in New York City
OSP 4

Frank Rausche
(USA) Non-Destructive Evaluation of Deep Foundations OSP 5

Raymond E. Sandiford
(USA) Restoration of PATH Service to Lower Manhattan OSP 6

D.S. "Sax" Saxena
(USA) Forensic Engineering in Applied Civil Engineering and Geo-Domain
OSP 7

Alan Powderham
(UK) The Observational Method – Learning From Projects OSP 8

J. P. Singh
(USA) Liquefaction Mitigation in Alaska (2003) Earthquakes OSP 9
(not received)

E. Ovando-Shelly
Miguel P. Romo
(Mexico) Three Recent Damaging Earthquakes in Mexico OSP 10



| | |
|---|--|
| Said Salah-Mars Clark Fenton Fouad Bendimerad Abdeldjelil Belarbi Yumei Wang (USA) | Preliminary Observations of Geotechnical Failures During the 21 May 2003 M 6.8 Boumerdes, Earthquake, Algeria OSP 11 |
| V. K. Mathur (India) | Microzonation Studies for Delhi, Jabalpur & Dehradun as Impacted by Bhuj Earthquake OSP 12 |
| George Gazetas (Greece) | The 2003 LEFKADA (Greece) Earthquake OSP 13 (not received) |
| George Mylonakis Costis Syngros (USA) | The Collapse of Fukae (Hanshin Expressway) bridge, Kobe, 1995: The Role of Soil and Soil-structure Interaction OSP 14 |
| Susumu Iai Tetsuo Tobita (Japan) | Recent Earthquakes in Japan OSP 15 |
| Gregory. L. Biesiadecki Ricardo Dobry George E. Leventis Ralph B. Peck (USA) | RION – Antirion Bridge Foundations: A Blend of Design and Construction Innovation OSP 16 |
| V. .S. Pillai B. Muhunthan N. Sasiharan (USA) | The Failure of Teton Dam – A New Theory Based on “State Based Soil Mechanics” OSP 17 |

SESSION 1

Case Histories of Shallow, Deep and other Foundations, including Soil Structure Interaction

| | |
|--|--|
| Andrew G. Cushing Scott A. Stonecheck Bradley D. Campbell Scott D. Dodds (USA) | An Evaluation of the Load-Displacement Behavior and Load Test Interpretation of Micropiles in Rock 1.02 |
| Jan Masopust (Czech Republic) | Design of Axially Loaded Bored Single Piles in the Czech Republic 1.04 |



| | |
|--|---|
| James W. Niehoff (USA) | Stabilization of a Historic Structure Founded on an Unstable Mesa 1.05 |
| A. Chirica A. Olteanu M. S. Serbulea C. Enescu N. Ungureanu (Romania) | Interaction with Nearly Environment and old Structure for a Deep Excavation. Case History in Bucharest 1.06 |
| Carol Domitric Matthew Janes (Canada) | Instrumentation and Performance of Tied-Back Shotcrete Shoring in Sand Adjacent to a Hospital Structure 1.07 |
| Ivan J. Maduro Carlos R. Molina Luis V. Castillo (Puerto Rico) Bruno Renoud-Lias Gilbert J. Salvi (France) | The Use of Stone Columns on Settlement and Liquefaction Susceptible Soils 1.08 |
| Vijay Khosla (USA) | Settlements Under Changed Structural Loadings 1.10 |
| Kyuho Paik (Korea) Rodrigo Salgado (USA) Junhwan Lee (Korea) | Design Lessons from Load Tests on Open-and Closed-Ended Pipe Piles 1.11 |
| Ali Bouafia Amina Lachenani (Algeria) | Horizontal Loading Tests of Instrumented Tubular Piles Driven into Clay – A Case History 1.12 |
| Perry A. Taylor John A. Gerlach (USA) | Foundation Treatments using Sand Compaction Piles and Surcharge Loading - Marine Corps Air Station Iwakuni, Japan A Case Study 1.13 |
| Nathaniel S. Fox (USA) Larry R. Wepler (Europe) Rainer Scherbeck (Germany) | Geopier Soil Reinforcement System – Case Histories of High Bearing Capacity Footing Support and Floor Slab Support 1.14 |



| | |
|--|--|
| Jinyuan Liu (USA) | Grouting and Dewatering in Balancing Settlement of a Building 1.15 |
| D.T.P. Phillips (Ireland) B.M. Lehane (Australia) | The Response of Driven Single Piles Subjected to Combined Loads 1.17 |
| Akira Wada (Singapore) | Skin Friction and Pile Design 1.20 |
| Liu Wenbai Zhou Jian Mongke Tei-Mohr (China) | Uplift Bearing Tests and Calculations of Belled Piles in Loess of Arid Regions 1.21 |
| Ingo Fox Mangtao Du (USA) Stephen Buttlng (Thailand) | Deep Foundations for New International Airport Passenger Terminal Complex in Bangkok 1.22 |
| H.-G. Kempfert B. Soumaya (Germany) | Settlement Back-Analysis of Buildings on Soft Soil in Southern Germany 1.24 |
| Christopher D. Parks David E. Jones (UK) Jose L.M. Clemente (USA) | Design and Installation of Foundations in Various Ground Conditions at Four Power Stations in the U.K. 1.25 |
| Joanna L. Meldrum Akshay Gupta Brian McDonald (USA) | Investigation of Structural Damage in a Corrosive Environment: A Case Study 1.26 |
| Jose L. M. Clemente John R. Davie Peter Nufer Myron Anderson (USA) | Micropiles for Support of Heavy Crane Ring Foundation 1.29 |



| | |
|--|--|
| Enrico Conte Giovanni Dente Antonello Troncone (Italy) | Settlements of Three Buildings Founded on Stratified Soils 1.30 |
| Rolf Katzenbach Jens Turek (Germany) | New Exhibition Hall 3 in Frankfurt – Case History of a Combined Pile-Raft Foundation Subjected to Horizontal Load 1.33 |
| Rolf Katzenbach Alexander Schmitt (Germany) | High-Rise Buildings in Germany Soil-Structure Interaction of Deep Foundations 1.34 |
| Kazuya Mitsuji Madan B. Karkee Yoshihiro Sugimura (Japan) | Dynamic Soil-structure Interaction in Low-rise Buildings from Seismic Records 1.35 |
| Mark M. Petersen Gary J. Van Riessen (USA) | Surcharge Fill and Vertical Drain System Improves Soft Clay Site 1.38 |
| Yousef Alostaz Abdol Hagh Jack Pecora (USA) | Design and Construction of a Support of Excavation System for a Deep Cut-and-Cover Tunnel in Downtown Boston 1.39 |
| Jesus Gomez Russ Preuss Allen Cadden (USA) | Emergency Underpinning and Repositioning of a Four-Story Office Building 1.40 |
| Nenad Gucunski Martina Balic Ali Maher Hani H. Nassif (USA) | Dynamic Characterization of the Doremus Avenue Bridge Substructure 1.41 |
| Pramod M. Rao K. Mohan Vennalaganti Shailendra N. Endley Karun Sreerama (USA) | Skin Friction Resistance of Auger Cast-In-Place Piles in Texas Gulf Coast Soils 1.42 |



| | |
|---|---|
| Waddah Akili (USA) | Foundations over Salt-Encrusted Flats (Sabkha): Profiles, Properties, and Design Guidelines 1.43 |
| Francesco Castelli Michele Maugeri (Italy) | Analysis of the Behavior of the Piled Foundations of a Group of Earthquake Damaged Buildings 1.45 |
| Paul J. Axtell Jacob W. Owen Scott D. Vollink (USA) | Increase in Pile Capacity with Time in Missouri River Alluvium 1.47 |
| A. Tejchman K. Gwizdala A. Slabek (Poland) | Investigations of Settlement of Piled Raft Foundation 1.51 |
| Edward L. Hajduk William B. Wright Thomas J. Casey Robert E. Dullanty (USA) | Steel Pipe Pile Design, Installation, and Dynamic Testing for a New Pier in Georgetown, SC 1.54 |
| Scott A. Loehr (USA) | Deep Foundation Design near Flood Protection Projects 1.56 |
| Clyde N. Baker, Jr. Tony A. Kiefer Kolbjorn Saether (USA) | Use of Straight Shaft Piers as Settlement Reducers in Combined Footing Design over Chicago Soft Clay 1.58 |
| Clyde N. Baker, Jr. Ted D. Bushell Rob Diebold (USA) | Dearborn Center: A Unique Soil Structure Interaction Design 1.59 |
| A. L. Gotman Yu. M. Shemenkov (Russia) | Single Foundations of Framed Buildings and Skeleton Structures in a Compacted Base and Their Horizontal Load Resistance 1.60 |
| N.Z. Gotman M.I. Makarjev (Russia) | Consideration of Raft and Soil Interaction in Piled-Rafts Design 1.61 |



| | |
|--|---|
| Kenneth R. Bell John R. Davie (USA) | Comparison of Two Ground Modification Techniques to Reduce Settlement 1.63 |
| Michael Majchzrak Marshall Lew Ken Sorensen Tom Farrell (USA) | Settlement of Shallow Foundations Constructed over Reinforced Soil: Design Estimates vs. Measurements 1.64 |
| Gregory R. Fischer Wayne L. Gerszewski Frank J. Barchok Michael K. Yavarow (USA) | Deep Caisson Sinking in Soft Soils, Grand Forks, North Dakota 1.67 |
| S. Mohan V. K. Khotan R. F. Stevens M. J. Chacko M. Kapuskar (USA) | Design and Construction of Large Diameter Impact Driven Pipe Pile Foundations New East Span San Francisco-Oakland Bay Bridge 1.68 |
| Jean-Louis Colliat Hedi Dendani (France) | Suction Anchors for Deepwater Moorings at Nkossa and Girassol in 200 and 1,400M of Water 1.69 |
| Frederick A. Brinker Petro W. Kazaniwsky Melissa Logan (USA) | Case History Illustrating the Challenges of Foundation Design and Construction in Karst Terrain 1.70 |
| V. V. Semkim A. Shaposhnikov (Russia) | The Experience of Reinforcement of Existing Buildings During Construction in Conditions of Compact Urban Planning 1.72 |
| John Coupland (USA) Mouwafak Kassir (UK) | Moorhouse Development – London Deep Sleeved Base-Grouted Piles and Perimeter Retaining Walls 1.73 |
| I. Rasin Duzceer (Turkey) | Foundation Works for Aktau Port 1.75 |



| | |
|--|---|
| Muhammad Alamgir Khaled Hassan Chowdhury (Bangladesh) | Ground Improvement Methods Recently Practiced to Solve the Geotechnical Engineering Problems in Bangladesh 1.76 |
| Emilio M. Morales (Philippines) Toshio Ono (Japan) | Settlement of a Light Rail Pier Supported on Large Diameter Bored Piles Remediated by Jet Grouting 1.77 |
| Filippo Ciuffi (Italy) | A Foundation Chart for Historical Town Restoring 1.82 |
| Jayme R.C. Mello Nelson Szilard Galgoul (Brazil) | Foundation Reinforcement of the Ipanema Beach Offshore Sewage Pipeline 1.83 |
| Syed Faiz Ahmad (Saudi Arabia) | Foundations over Expansive Soil, A Saudi Arabia Case History 1.91 |
| Keith E. Robinson (Canada) | Unique Foundation Solution for Organic Soil Site 1.92 |
| Ion Vlad (Romania) | Case Study on the Foundation and Site Geotechnical Evaluation for the Rehabilitation of an Emergency Hospital Building 1.93 |
| Yasser A. Hegazy Andrew G. Cushing Christopher J. Lewis (USA) | Driven Pile Capacity in Clay and Drilled Shaft Capacity in Rock From Field Load Tests 1.95 |
| R.K. Dhiman (India) | Deep Foundation Construction in Bouldery Bed An Overview 1.A1 |

SESSION 2

Case Histories of Slopes, Dams and Embankments

| | |
|---|--|
| Sanjeev Kumar Braja M. Das Michael L. Hall (USA) | A Case History of Site Instability Due to the Presence of a Shale Layer Above Sloping Bedrock 2.01 |
|---|--|



| | |
|--|--|
| Yisen Wang (China) Sihong Liu (Japan) | Treatment for a Full Weathering Rock Dam Foundation 2.02 |
| Nader Shariatmadari Masoud Samimi Mohammad Rezaia (Iran) | Investigation and Treatment Analysis of Barikan Landslide 2.03 |
| Vlad Perlea David Mathews William Empson (USA) | Evaluation of Alternatives for Earthquake Hazard Mitigation of an Embankment Dam in Kansas 2.04 |
| B. Indraratna C. Rujikiatkamjorn (Australia) | Mathematical Modeling and Field Evaluation of Embankment Stabilized with Vertical Drains Incorporating Vacuum Preloading 2.05 |
| Stanislav Lenart (Slovenia) | Stoze Landslide – A Case History 2.10 |
| Gang Luo Jian-Min Zhang (China) | 3-D Seismic Response Analysis for Zipingpu Concrete Faced Rockfill Dam 2.11 |
| Sandor Toth (Hungary) | Case Study on Failure Mechanism of Flood Embankments due to Rapid Sand Boiling on Alluvial Flood Plains and the Identification of Vulnerable Levee Sections 2.13 |
| Fan Xi William Broderick Paul Rizzo Jeffery Bair (USA) | Landslide Monitoring and Remediation – A Case History 2.14 |
| Ga Zhang Jian-Min Zhang (China) | A FEM Seepage Analysis for Upstream Cofferdam of Xiluodu Hydraulic Power Station 2.15 |
| David E. Jones (UK) | Monitoring and Stabilisation of the Giants Seat Land Slip, U.K. 2.16 |
| Mark C. Gemperline (USA) | An Unstable Deep Canal Cut in Fat Clay – A Case History of Slope Failures on the McClusky Canal, North Dakota 2.17 |



| | |
|---|---|
| M. N. Skempas A.W. Livadas (Greece) | Slope Stability Aspects of the Egnatia Odos Highway Project in Northern Greece 2.21 |
| Rolf Katzenbach Johannes Giere Matthias Seip (Germany) | Stability and Serviceability of Tailing Heaps with Visco-plastic Materials 2.22 |
| Elena Sossenkina Scott Newhouse Matt Glunt (USA) | A Dangerous Place to Dig Excavation at the Toe of Saluda Dam 2.25 |
| Indra Prakash Nikhil Desai (India) | Rock Mass Evaluation of the Sardar Sarovar (Narmada) Dam and Underground Powerhouse, India 2.26 |
| Darrell Wilder Allen Cadden Jesus Gomez Anne M. Germain (USA) | Cherry Island. Assessing the Behavior of a Large Landfill Using Geotechnical Instrumentation 2.27 |
| Aldo Evangelista Anna Scotto di Santolo (Italy) | Analysis and Field Monitoring of Slope Stability in Unsaturated Pyroclastic Soil Slopes in Napoli, Italy 2.28 |
| Mojca Ravnikar Turk Janko Logar (Slovenia) | Numerical Analyses of the Performance of the Drtijsca Earth Dam 2.29 |
| Gang Wang Bing-Yin Zhang Jian-Min Zhang (China) | Static and Dynamic Response Analysis of a High Rock-Fill Dam with a Clay Core 2.31 |
| Carl Kim Charles Snell Edmund Medley (USA) | Shear Strength of Franciscan Complex Melange as Calculated from Back-Analysis of a Landslide 2.33 |



- Pankaj Gupta
Deepak Mukherjee
P.K. Sikdar
Kishor Kumar
(India)
- Investigation and Control of Narayanbagar Landslide, District Chamoli, Uttaranchal, India – A Case Study 2.36
- M. H. Baziar
(Iran)
C. M. Merrifield
(UK)
Sh. Salemi
T. Heidari
(Iran)
- Three Dimensional Dynamic Analysis of Alborz Dam with Asphalt and Clay Cores 2.40
- Scott M. Olson
Alan Miller
Kenneth M. Berry
Jay Bestgen
(USA)
- Landslide Stabilization at Missouri Route K Bridge over Blackwater River 2.41
- Palmi R. Palmason
Fjola G.
Sigtryggdottir
Flosi Sigurosson
Gunnar G. Tomasson
(Iceland)
- Snow Avalanche Training Dike at Flateyri, Iceland 2.42
- Bingyin Zhang
Ruifeng Shi
Zongliang Zhang
(China)
- Contact Analysis of Separation Between Concrete Slab and Cushion Layer in Tianshengqiao Concrete-Faced Rock-fill Dam 2.44
- I. Szabo
A. Szabo
T. Madarasz
(Hungary)
- Geotechnical Investigation of the Hollohaza Landslide Case 2.46
- Ali M. Oskoorouchi
Philip J. Lane
(USA)
- Slope Failure and Piping Potential due to Root Decomposition in an Aged Embankment Dam 2.47
- Aniruddha Sengupta
(India)
- Anchoring of Little Quinnesec Falls Hydroelectric Dam 2.48



| | |
|--|---|
| Paul J. Lewis Jack Mansfield Syed Ashraf Kessi Zicko (USA) | Performance of a Highway Embankment Constructed over Landfill Material 2.51 |
| Er. Mahavir Bidasaria (India) | Grouting Technology for Rehabilitation of Tiller Earthen Dam 2.52 |
| Er. Mahavir Bidasaria (India) | Treatment of Unconformity Zone and Curtain Grouting in Foundation of Almatti Dam, on Krishna River 2.53 |
| Andre R. Koelewijn Gijs J.C. M. Hoffmans Meindert A. Van (Netherlands) | Lessons Learned from a Full-scale Dyke Failure Test 2.55 |
| Vernon R. Schaefer Robert A. Lohnes (USA) | Landslides in Shale-Derived Glacial Till 2.56 |
| Ted D. Bushell William Butler William H. Walton Ravi Mathur (USA) | Drake Lake Dam – A Performance Case History 2.59 |
| Yasushi Sasaki Takashi Fukuwatari Tomoharu Tsuju Seiji Kano Shun-ichi Sawada Hideyasu Uekuma (Japan) | A Study on the Performance of a Reinforced Dike Section with Geogrid during the Tottoriken-Seibu Earthquake 2.62 |
| K. Anastassopoulos (Greece) E. Hoek V. Milligan (Canada) W. Riemer (Luxemburg) | Thissavros Hydropower Plant Managing Geotechnical Problems in the Construction 2.63 |



| | |
|--|--|
| Seiji Kano Yasushi Sasaki Yoshiya Hata (Japan) | Experiment of Seismic Failure of a Long Embankment 2.64 |
| Yu Bagdasarov V. Krutov I. Popsuenko (Russia) | Construction of Filled Hill for Downhill Ski Racing Complex in Moscow 2.66 |
| Behnam Shadravan Ali A. Mirghasemi Mehdi Pakzad (Iran) | Karkheh Storage Dam Cutoff Wall Analysis and Design 2.71 |
| David W. Curran David Rees Gillette (USA) | Evaluation of Structural Alternatives for Seismic Risk Mitigation at Deer Creek Dam 2.73 |
| Kishor Kumar Dinesh Sati (India) | Seismogenic Landslides in Himalaya with Special Reference to Uttaranchal 2.75 |
| D. R. Phatak S. R. Pathak K. C. Birid (India) | Estimation of Phreatic Line Using Dimensional Analysis 2.76 |
| Sukhmander Singh (USA) | Shear Strength Characteristics of Heavily Glaciated Soils of Chugach Range 2.79 |
| Ashok K. Chugh Robert L. Schuster Peter M. Rohrer (USA) | Numerical Assessment of an Estimated Slip Surface, Locke Island Landslides, Columbia River, South-central Washington State, USA 2.81 |
| Ahad Bagerzadeh_Kalkhali Fardin Jafarzadeh (Iran) | A Case Study of the Stress-Strain Analysis of a Rockfill Dam (Upper Gotvand Dam, Iran) <i>(to be included on General Report CD)</i> |



Sarita de Paula P.
Cavalcante
Robert Quental
Coutinho
Alexandre Duarte
Gusmao
(Brazil)

Analysis of Behavior of Embankments on Soft Soils Geotechnical Investigations and Instrumentation Access of Embankments The Jitituba River Bridge 2.83

S. Van Baars
(Netherlands)

Dutch Dike Breach, Wilnis 2003 2.84

SESSION 3

Case Histories of Geotechnical Earthquake Engineering and Natural Disasters, including Debris and Mud Flows and Lessons Learned from Loma Prieta 1989, Petrolia 1992, Northridge 1994, Kobe 1995, Turkey 1999, Chi-Chi 1999, Greece 1999, Bhuj India 2001 and other recent Earthquakes

M. Tao
J. L. Figueroa
A. S. Saada
(USA)

Field Verification of the Energy-based Procedure to Predict the Liquefaction Potential of Soil Deposits 3.02

Thomas G. Thomann
Khaled Chowdhury
(USA)

Shear Wave Velocity and its Effect on Seismic Design Forces and Liquefaction Assessment 3.03

F. Santucci de
Magistris Filippo
Anna d'Onofrio
Stefania Sica
(Italy)

A Step into the Definition of the Seismic Risk for the City of Benevento (Italy) 3.04

M. H. Baziar
M. Esna-Ashari
H. Saleh Zadeh
(Iran)

Comparison of Soil Classification Methods using CPT results 3.06



| | |
|---|---|
| Claudio Cherubini Vittorio D'Intinosante Maurizio Ferrini Carlo Lai Diego Carlo LoPresti Mario Luigi Rainone Patrizio Signanini Giovanna Vessia (Italy) | Problems Associated with the Assessment of Local Site Effects Through a Multidisciplinary Integrated Study: The Case of Fivizzano's Town (Italy) 3.08 |
| Jiaer Wu Raymond B. Seed (USA) | Estimation of Liquefaction-induced Ground Settlement (Case Studies) 3.09 |
| Sami Arsoy Akin Onalp (Turkey) | Reduction of Liquefaction Susceptibility Under Existing Structures by Permeation Grouting 3.10 |
| Gary L. Kuhns Mark C. Canty (USA) | Stabilizing Building Foundations Threatened by the Pine Hills, Florida Sinkhole 3.11 |
| Scott M. Olson Thomas L. Cooling Steven T. Hague (USA) | Geotechnical Earthquake Engineering for the Great River Bridge 3.12 |
| Neven Matasovic Jack Caldwell Paul Guphill (USA) | The Role of Geotechnical Factors in Northridge Earthquake Residential Damage 3.14 |
| Siasi Kociu (USA) | Induced Seismic Impacts Observed in Coastal Area of Albania: Case Studies 3.17 |
| James Talerico John R. Schuring Raj P. Khera (USA) | A Landslide in Glacial Soils of New Jersey 3.19 |
| C.A. Stamatopoulos Stavros G. Aneroussis (Greece) | Back Analysis of the Liquefaction Failure at King Harbor Redondo Beach, California 3.20 |



| | |
|--|--|
| M. R. Lewis M. D. McHood I. Arango (USA) | Liquefaction Evaluations at the Savannah River Site A Case History 3.21 |
| Antonio Cavallaro Michele Maugeri (Italy) | Dynamic Geotechnical Characterization for the Microzonation of the Seismic Area of Catania 3.23 |
| Yang Xianjian Cao Guangyun Xu HongYu (China) | Propagation Characteristics of Seismic Wave while Transiting Interlining in Soil Medium 3.24 |
| G. Lanzo L. Olivares F. Silvestri P. Tommasi (Italy) | Seismic Response Analysis of Historical Towns Rising on Rock Slabs Overlying a Clayey Substratum 3.25 |
| Elizabeth A. Hausler Mark Koelling (USA) | Performance of Improved Ground During the 2001 Nisqually Earthquake 3.27 |
| Erol Kalkan Korhan Adalier Ahmet Pamuk (USA) | Near Source Effects and Engineering Implications of Recent Earthquakes in Turkey 3.30 |
| Filippo Ciuffi (Italy) | Environmental Geotechnics to Study a Historical Town 3.31 |
| Gloria Estrada Juan Jaramillo (Colombia) | Simulation of Damage Associated to the 1999 Armenia Earthquake using IE-RISS System 3.32 |
| Susumu Yasuda Takashi Hitomi Takao Hashimoto (Japan) | A Detailed Study on the Liquefaction-Induced Settlement of Timber Houses during the 2000 Tottoriken-Seibu Earthquake 3.33 |
| Jacques Harb Laurence Pico (Lebanon) | Liquefaction Risk Assessment and Implications on Urban Planning in the Greater Beirut Area 3.34 |



| | |
|---|--|
| Masayuki Hyodo Teruhisa Fujii Norimasa Yoshimoto Naoki Takahashi (Japan) Adrian F.L. Hyde (UK) | On-line Response Tests on Case History of Earthquake Induced Deformation of River Dykes Founded on Saturated Sandy Deposits 3.38 |
| A. Chirica A. Olteanu M. S. Serbulea (Romania) | Liquefaction Potential of the Hydrotechnical Dikes Foundation Ground 3.40 |
| H. Turan Durgunoglu (Turkey) Mauro Chinchelli (USA) Selim Ikiz Canan Emrem (Turkey) Thomas Hurley Fatih Catalbas (USA) | Soil Improvement with Jet-Grout Columns: A Case Study from the 1999 Kocaeli Earthquake 3.41 |
| Akihiro Takiguchi (Japan) | Consideration of the Peak Horizontal Velocity 3.43 |
| Ahmet Pamuk Hoe I Ling Dov Leshchinsky Erol Kalkan Korhan Adalier (USA) | Behavior of Reinforced Wall System During the 1999 Kocaeli (Izmit), Turkey Earthquake 3.45 |
| Gloria Estrada Angela Arango (Colombia) | GIS Methodology for Zonification of Slope Stability under Earthquakes 3.46 |



- | | |
|--|--|
| Robert Alperstein Carl Costantino Peter Edinger Michael Greenman Magued Iskander Stephen K. Law Sam Leifer George Mylonakis Sissy Nikolaou Ray Sandiford Thomas Thomann (USA) | Liquefaction Susceptibility: Proposed New York City Building Code Revision 3.50 |
| Luljeta Bozo (Albania) | The New Resolution of Foundation in Durres City 3.51 |
| B.K. Maheshwari (India) Kevin Z. Truman (USA) | Nonlinear Dynamic Behavior of Pile Groups: Effects of Plasticity of Soil 3.52 |
| Mahesh D. Desai Pranav I. Desai Nehal H. Desai (India) | Foundation System for “Akshardham” to Control Deformations Related to Probable Liquefaction 3.53 |
| Manuel J. Mendoza Miguel P. Romo Marcos Orozco (Mexico) | Behavior of a Friction-Piled Box Foundation for an Urban Bridge in Mexico City Clay 3.54 |
| Adrian Rodriguez- Marek Joseph Wartman Pedro C. Repetto Jennifer L. Williams (USA) | Observations of Site Amplification and Liquefaction in the June 23, 2001, Southern Peru Earthquake 3.55 |
| Paulo A.L.F. Coelho Stuart K. Haigh S.P. Gopal Madabhushi (UK) | Centrifuge Modelling of Earthquake Effects in Uniform Deposits of Saturated Sand 3.57 |



- Vlatko Sesov
(Macedonia)
Ikuo Towhata
Naoyuki Harada
(Japan)
- Shaking Table Tests on Efficiency of New Type of Drains 3.59
- Yulman Munaf
Shamsher Prakash
(USA)
- Displacement of Bridge Abutment Model under Earthquake Loading
3.61
- V. S. Brahmabhatt
V. M. Yagnik
M. N. Dave
P.A. Santwaani
(India)
- Case Histories of Soil Behaviour and Investigations for Seismically
Distressed Earthen Dams of Kachchh Region in Gujarat, India 3.62

SESSION 4
Case Histories of Engineering Vibrations

- Janusz Kogut
Geert Degrande
Geert Lombaert
Lincy Pyl
Wim Haegeman
Lutz Karl
(Belgium)
- Measurements and Numerical Predication of High Speed Train
Vibrations 4.02
- V. A. Ilyichev
L. R. Stavnitser
V. Y. Shishkin
(Russia)
- Reduction of the Vibrations Caused by Transport to the General Post-
Office of Moscow 4.03
- Edward L. Hajduk
Donovan L. Ledford
William B. Wright
(USA)
- Construction Vibration Monitoring in the Charleston, South Carolina
Area 4.04
- Yasuyuki Nabeshima
Kiyoshi Hayakawa
Yukihiko Kani
(Japan)
- Experimental and Numerical Studies on Ground Vibration Isolation
by PC Wall-Pile Barrier 4.06
- Tadanori Nishimura
Masahiro Shoji
Kiyoshi Hayakawa
(Japan)
- Performance of a Steel Sheet-Pile Barrier against Ground Vibration
Originating in Railway Traffics 4.07



| | |
|---|---|
| Mehdi Bahrekazemi Anders Bodare Bo Andreasson Alexander Smekal (Sweden) | Mitigation of Train-Induced Ground Vibrations; Lessons From the Ledsgard Project 4.08 |
| A. Chattopadhyay R. L. Venkateswarlu S. Saha (India) | The Reflection of Quasi Waves at Free Boundary of a Fibre-reinforced Medium 4.11 |
| Lu Li Yang Xianjian (China) | Urban Environmental Vibration Induced by Underground Railway 4.12 |
| Samuel U. Ejezie (Nigeria) | Piling-Induced Ground Motion: A Case Study Involving Hydrocarbon Exploitation Activities in the Niger Delta 4.13 |
| John A. Barneich Jay Arabshshi Steven K. Duke (USA) | Two Case Histories of Blast - & Traffic-Induced Vibrations on the Stability of Burrows of Endangered Sensitive Ground Dwelling Animals 4.14 |
| A. Boominathan R. Sundaravadivelu C.K. Madheswaran (India) | Measurement of Vibration in Berthing Structure During Underwater Rock Blasting 4.15 |
| Hrachya Abrahamyan (Armenia) | Dominant Periods of Expected Ground Motion of Gyumri Territory by a Method of Calculating Dominant Periods in Non-Homogenous Surface Layers of the Earth's Crust 4.17 |
| Ion Vlad Mirela-Nausica Vlad (Romania) | Experimental Investigations on Four Electric-Generators Foundation Systems 4.18 |
| Arinos Xavier Tavares (Brazil) | Conditions of Structural Stability and Vibration Damage 4.19 |
| Sanga Tangchawal (Thailand) | Vibration Prediction and Optimization: The Case Histories of Quarry Blasts in Thailand 4.20 |
| G. Esposito H. Stuit (Netherlands) | Dynamic Response of Bored Tunnel: Modelling and Testing 4.21 |



| | |
|--|--|
| Rolf Katzenbach Marc Ittershagen (Germany) | Soil Improvement of Soft Soil Under Dynamic and Static Loading – Case History of a Geotechnical Field Experiment under a Railway Line 4.22 |
| T. Thandavamoorthy C.K. Madheswaran (India) | Prototype Piling in Soft Clay-A Case Study of Ground Vibrations – Field Measurement 4.23 |
| C.K. Madheswaran T. Thandavamoorthy (India) | Field Investigation on Ground and Structural Vibrations during Prototype Pile Driving 4.24 |
| Edward L. Hajduk Donovan L. Ledford William B. Wright (USA) | Pile Driving Vibration Energy-Attenuation Relationships in the Charleston, South Carolina Area 4.25 |

SESSION 5

Case Histories of Retaining Structures and Deep Excavations

| | |
|--|--|
| J. N. Mandal H.V.K. Chaitanya S. S. Nimbalkar (India) | Seismic Design of Geosynthetic Reinforced Soil Walls 5.01 |
| Walid Aboumoussa Maged Iskander (USA) | Failure of a Rigidly Framed Concrete Parking Structure Due to Thermally Induced Earth Pressure 5.03 |
| J. Matos e Silva (Portugal) | A Case of Soil Sliding in the Pathology of Retaining Structure 5.06 |
| Kumars Zand-Parsa (USA) | Simplified Methods for the Surcharge Lateral Pressure Distribution 5.07 |
| Mahmood Momenzadeh Grant Wilcox Hooshmand Nikoui Tim Pokrywka (USA) | Landslide Mitigation on the Sonoma Coast in Northern California 5.10 |
| Arturo Ressi di Cervia (USA) | Jacking Pits in Boston's Central Artery Project 5.12 |



| | |
|---|--|
| P. Mestat Y. Riou (France) | A Database for Case Histories and Numerical Modelling 5.13 |
| D. P. Zekkos A.G. Athanasopoulos (USA) G. A. Athanasopoulos (Greece) | Deep Supported Excavation in Difficult Ground Conditions in the City of Patras, Greece – Measured VS. Predicted Behavior 5.18 |
| Stephen TM Young (USA) James WC Sze (Hong Kong) | Deep Basement Construction through an Existing Basemement at the Central Business District of Hong Kong 5.19 |
| Abdol Hagh Yousef Alostaz Thomas Hennings (USA) | Design and Construction of a Support of Excavation System for The Silver Line Subway in Boston 5.21 |
| V. A. Ilyichev P. A. Konovalov N. S. Nikiforova I. A. Bulgakov (Russia) | Deformations of the Retaining Structures Upon Deep Excavations in Moscow 5.24 |
| Emilio Bilotta Massimo Ramondini Carlo Viggiani (Italy) | Monitoring an Excavation in an Urban Area 5.26 |
| Pavel Zvanut Janko Logar Bojan Majes (Slovenia) | Back Analyses of Anchored Retaining Structures 5.28 |
| S. Taghipoor S. A. Amirshahkarami H. Salari Rad (Iran) | Numerical Modeling of Bistun Rock Slope Behavior in Grouting Using Discrete Element Method 5.29 |
| Greg Paxson Allen Cadden Rich Wargo Jesus Gomez (USA) | MSE Walls in Distress: Repair Them or Rebuild Them? 5.30 |



| | |
|--|--|
| Stavros A. Savidis Frank Rackwitz (Germany) | Geotechnical and Environmental Consideration by Planning and Construction of the Transportation Infrastructure in the Centre of Berlin 5.32 |
| K. Muthukkumaran R. Sundaravadivelu S. R. Gandhi (India) | Monitoring of Lateral Deflections of a Berthing Structure During Dredging-A Case Study 5.35 |
| Mustafa S. Nalcakan Maral Tekin Gokce Tonuk Ufuk Ergun (Turkey) | Behaviour of a Watertight Anchored Retaining Wall in Soft Soil Conditions 5.36 |
| Shaun D. Stauffer Daniel J. Campbell Andrew E. Sparks Keith Miller Michelle Leviant (USA) | Observations and Performance of a Soil Nail Shoring Wall in Seattle Silts and Clays 5.37 |
| Wang Jia-lin Wang Ji-wang (China) | The Application of Jet Grouting in Shanghai Foundation Pit Projects 5.38 |
| So-ngo Clifford Teme Patrick O. Youdeowei (Nigeria) | Geotechnical Investigations for Design of Foundations for Erosion and Flood Control Structures at Unwana Beach, Afikpo, Ebonyi State, South-Eastern Nigeria 5.44 |
| Kanchan K. Sen Yousef Alostaz Guido Pellegrino Abdol Hagh (USA) | Support of Deep Excavation in Soft Clay: A Case History Study 5.45 |
| John Coupland (USA) P. Openshaw (UK) | Channel Tunnel Rail Link – Contract 220, Graham Road Deep Vent Shaft 5.47 |
| Rasin Duzceer Alp Gokalp Riza Yoruk (Turkey) | Artificial Island Construction in North Caspian Sea, Kazakhstan 5.49 |



| | |
|---|--|
| Andrew J. Ciancia Gregory L. Biesiadecki (USA) | Reuters Comes to Times Square 5.51 |
| George Aristorenas Minhaj Kirmani (USA) | One Lincoln Street Arched Slurry Wall 5.53 |
| G.A. Horodecki A.F. Bolt E. Dembicki (Poland) | Deep Excavation, Braced by Diaphragm Wall in Gdansk (Poland) 5.54 |
| Vijay K. Puri Shamsher Prakash Retno Widanarti (USA) | Retaining Walls Under Seismic Loading 5.55 |
| S. J. Boone J. Westland (Canada) | Design, Construction, and Performance of a Deep Braced Excavation 5.57 |
| S. J. Boone J. Westland (Canada) | Failure of an Excavation Support System 5.58 |
| Berhane Gebreselassie Hans-Georg Kempfert (Germany) | Excavation in Deep Soft Lacustrine Soil Deposit 5.59 |
| Ingo Fox Burjor Kharivala (USA) | Stabilization of the Dividing Wall at a Drinking Water Reservoir 5.63 |
| Zeljko Arbanas Branka Jardas Meho Sasa Kovacevic (Croatia) | Excavation of Open Pit “Zagrad” in Rijeka, Croatia – A Case History 5.64 |
| Carlos S. Oteo Jose M. Rodriguez Ortiz Manuel Melis (Spain) | The Construction of Stations and Tunnels by Slurry Trench Method in the Madrid Metro Extension 5.65 |



Narong Thasnanipan
Zaw Zaw Aye
C. Submanee Wong
(Thailand) Construction of Diaphragm Wall Support Underground Car Park in Historical Area of Bangkok 5.66

Petr Koudelka
Tomas Koudelka
(Czech Republic) History of Passive Pressure of Non-Cohesive Mass and its Consequences for Theory of Earth Pressure 5.67

D. C. Konstantakos
Andrew J. Whittle
Carlos Regalado
(USA)
Bernhard Scharner
(Austria) Control of Ground Movements for a Multi-Level-Anchored, Diaphragm Wall During Excavation 5.68

Yingwei Wu
Shamsher Prakash
V.K. Puri
(USA) Economic Aseismic Design of Rigid Retaining Wall 5.69

SESSION 6

Case Histories of Geological, Rock and Mining Engineering, including Underground Structures and Deep Foundations

Verya Nasri
(USA)
Christian Winum
(France)
Aomar Benslimane
(USA) Analysis of Tunnel Section Enlargement Through Cutting Masonry Liner (Paris-Marseilles Roches de Condrieu Railway Tunnel Case Study) 6.02

Enrique Padilla
Corona
(Mexico) Geotechnical Analysis of the Formation of Earth Fissures at Ciudad Guzman, Jalisco 6.03

S. Taghipoor
H. Abbasi
(Iran) Hydro-Mechanical Numerical Analysis of Grouting Galleries in Azadi Rockfill Dam 6.04

Hubert Quick
Joachim Michael
Helmut Prinz
Ulvi Arslan
(Germany) Tunnelling for German High Speed Railway Lines – A General Report 6.05



- S. Saarelainen
L. Korkiala-Tanttu
J. Viitala
(Finland) Railway Tunnelling in Frozen Ground on Bothniabana 6.06
- D. Azizmohammadi
H. Abbasi
(Iran) Estimation of Maximum Advance in Kaka-Reza Water Conveyance Tunnel at 700 Meter Depth 6.07
- Verya Nasri
(USA)
Christian Winum
(France) Analysis of the Invert Damages and its Rehabilitation Design – The Saint Louis les Aygalades Tunnel Case Study 6.08
- Wulf Schubert
(Austria) Tunneling in Alpine Fault Zones Excavation and Support Strategies 6.09
- Thomas P. Hart
Giuliana Zelada-
Tumialan
(USA) Site Development in Deep Karst Terrain 6.10
- Edward A. Button
Wulf Schubert
Gunter Riedmueller
(Austria) The Use of Monitoring Data and Geologic Documentation as a Basis for Defining Rock Mass Behavior Types for Tunnelling 6.11
- A. Boominathan
S. R. Gandhi
J. Elango
P. C. Sivathanu
(India) Evaluation of Rock Characteristics for a Power Plant Site in India 6.13
- N. S. Bulychev
N. N. Fotieva
A. S. Sammal
I. Siavoshi
(Russia) Lining Design for Alborz Tunnel in Iran 6.17
- Subal Sarkar
Amitabha Mukherjee
Aomar Benslimane
(USA) Rock Tunneling with TBMs on the East Side Access Project A New Perspective 6.18



| | |
|---|---|
| Brian C. Dorwart Gregory R. Fischer Wayne .L. Gerszewski Michael K. Yavarow (USA) | Directionally Drilled Raw Water Intakes, Grand Forks, North Dakota 6.19 |
| Alberto Pujol Rob Busby Steve Rosenbaum (USA) | Mine Plug Integrity Evaluation 6.20 |
| M. Shahabi M.R. Shahverdilo (Iran) | Effect of Installing Monobars in Stability of Powerhouse Cavern Roof in Masjed-Soleiman Power Plant Extension 6.22 |
| David Yanez Ruben Morante (Mexico) | Caverns Stability with more than 10 Centuries in Prehispanic Excavations in Mexico 6.24 |
| James G. McWhorter (USA) | Closure of the Woodhull Mine Chester, New Jersey 6.26 |
| Tang Shao Hui Jin Chen (China) | The Law and Mechanism of Rockburst Occurring in Huize Lead – Zinc Mine 6.27 |
| Syed Faiz Ahmad (Saudi Arabia) | Managing Sinkholes at Project Site, A Saudi Arabian Case History 6.28 |
| M. Asad uz Zaman (Bangladesh) | Groundwater Abstraction from Aquitard, Aquiclude and thin Aquifer in Barind 6.29 |
| Marta Dolezalova Ivo Hladik Vlasta Zemanova (Czech Republic) | Case History of an Open-pit Coalmine Loaded by Artesian Water Pressure 6.30 |
| Masoud Monjezi (Iran) T. N. Singh Amit Pandey Saurabh Puri (India) | Geo-Mechanical Modelling for Optimization of Rock Slope in an Opencast Coal Mine 6.31 |



Antonio Jaramillo
Morilla
Pedro Arozamena
Rafael Bahillo
Rocio Romero
Hernandez
Jose M Sanchez
Langeber
(Spain)

Repair of the Church of La Purisima Concepcion of Huelva (Spain) with Jet-Grouting, for Damages Caused by the Construction of Diaphragm Walls in its Proximity 6.35

Shilong Mei
(China)
Baoshan Huang
(USA)

Geotechnical Analyses of Guizhou Hotel 6.36

Kenneth J. Zur
Derek B. Apel
(USA)

Use of Cemented Rock Fill for Enhanced Pillar Recovery in Area 1 of the Doe Run Company 6.37

SESSION 7
Case Histories of Forensic Engineering,
Where Things Went Wrong

David Cummings
Frank J. Kenton
(USA)

Eleven Case Studies of Failures in Geotechnical Engineering, Engineering Geology, and Geophysics: How They Could Have Been Avoided 7.01

Shad E. Hoover
Mian C. Wang
Brian Dempsey
(USA)

Structural Damage Induced by Pyritic Shale 7.02

Salah Sadek
Philippe Fayyad
Walid Choucair
(Lebanon)

Excavation Shoring Failure Threatens a Historic Church: Exploration of Causes and Remedial Measures 7.03

Rolf Katzenbach
Alexandra Weidle
Helmut Hoffmann
(Germany)

Tilting of a Historic Façade during Construction Works – Geotechnical Cause and Effect on the Stiffening System 7.04

A. N. Hussein
A. H. Mustapha
(Malaysia)

Failure Investigation of a Fill Slope in Putrajaya, Malaysia 7.05



- E .A. J. George Ground Subsidence Induced by Oil Drilling Process 7.07
L. Thomas
C. Oko
(Nigeria)
- Dennis R. Hiltunen Characterization of Abandoned Mine Sites Beneath I-70 Via
R. Nolen-Hoeksema Crosshole and Sasw Seismic Wave Methods 7.08
Richard D. Woods
(USA)
- Jim Johnson The Construction of the A650 Bingley Relief Road Adjacent to an
David Gwede Unstable Tied Sheet Pile Retaining Structure 7.12
Andrew Smith
Ian Webber
Mike Murphy
(UK)
- V. V. S. Rao Forensic Analysis of an Uncontrolled Fill 7.13
N. Santosh Rao
(India)

SESSION 8

Case Histories of Soil Property Improvement, Use of Lightweight Materials, and Geotechnical and Hydrological Management and Remediation of Solid, Hazardous and Low-Level Radioactive Wastes, including Liner Cover Systems and Landfill Closure for Brownfield Development

- Mary Perlea Non-Homogeneous Reinforced Earth Fill for Riverbank Stabilization
(USA) 8.02
- Costas Improvement of Fine Sand Properties with Water Soluble Epoxy
Anagnostopoulos Resin Grouts 8.03
Evangelos
Stavridakis
Ioannis
Grammatikopoulos
(Greece)
- Omar M. Alsamman Soil Improvement Using Deep Dynamic Compaction 8.04
George P. Kelley
(USA)



- Dimitris Dermatas
Mike Dadachov
Paul Dutko
(USA)
Geoenvironmental Site Characterization to Treatment: Lead Contaminated Firing Range Case Study 8.06
- Hany L. Riad
Anthony L. Ricci
Peter W. Osborn
David A. D'Angelo
John S. Horvath
(USA)
Design of Lightweight Fills for Road Embankments on Boston's Central Artery/Tunnel Project 8.07
- Erik O. Andersen
L.A."Lorne" Balanko
Joyce M. Lem
Dave H. Davis
(USA)
Field Monitoring of the Compressibility of Municipal Solid Waste and Soft Alluvium 8.08
- C. H. Hettiarachchi
J. N. Meegoda
(USA)
J.P. Hettiaratchi
(Canada)
A Model Based on Mechanics to Predict Settlements in Bioreactor Landfills 8.09
- C. Dano
H. Vergnaux
(France)
Injection of a Microfine Cement Grout for the Tunneling of Meteor 8.10
- Anirban De
R. Jeffrey Dunn
Neven Matasovic
(USA)
Site Characterization, Design, and Construction for Closure of Four Hazardous Waste Landfills at a Superfund Site 8.13
- Christian Lavallee
Raj Rajaram
(USA)
A Novel Approach to Remediation of a Waterfront Chromium Facility 8.15
- Jeffrey C. Evans
John M. Trast
Randy L. Frank
(USA)
Lessons Learned from the Macon County Slurry Wall 8.19
- M. E. Meyer
L. Zhou
C. M. Gonzalez
(USA)
The Use of EPS Geofoam Lightweight Fill in Hollywood, Fl 8.23



| | |
|--|--|
| Minglei Shi Zhenshun Hong Fei Jin Li Shao Heng Zhu Renmin Li (China) | Quality Investigations on Ground Improvement in Highway Engineering Practice 8.25 |
| S. S. Yasrobi E. Asghari (Iran) | Dynamic Compaction in Assalouyeh, Iran 8.26 |
| Hisham T. Eid Omar M. Alansari (Qatar) | Large-Scale Land Reclamation and Soil Improvement for a City Expansion 8.29 |
| Gregory Biesiadecki Diane Porciello (USA) | Erskine Street Interchange 8.32 |
| Jiwei Duan Issa Oweis (USA) | Load Transfer of Cement-Soil Column by Full Scale Load Test in Soft Clay 8.33 |
| Saravut Jaritngam (Thailand) | Case Histories of Jet Grouting for Canal Excavations 8.34 |
| Kul Bhushan Ashok Dhingra Curt Scheyhing Endi Zhai (USA) | Ground Improvement by Stone Columns and Surcharge at a Tank Site 8.36 |
| Katia.V. Bicalho Reno. R. Castello Renata d'Andrea (Brazil) | The Densification of Loose Sand Using Compaction Piles 8.38 |
| Henrik Kristiansen Todd Martin (Canada) | Ground Improvement by Optimized Preload Program 8.39 |
| Armin W. Stuedlein Dawit Negussey Michael Mathioudakis (USA) | A Case History of the Use of Geofoam for Bridge Approach Fills 8.40 |



- Yu Bagdasarov
A. Saurin
(Russia) Reinforcement of Earth Structures with Cast-in-Place Piles in the Expanded Boreholes 8.41
- David S. Yang
Christopher J. Coutu
Larry L. Scheibel
(USA) Quality Control of Cement Deep Soil Mixing Work for Port of Oakland Projects 8.42
- K. Harada
H. Tsuboi
Y. Tanaka
Y. Takehara
H. Fukada
(Japan) Case Histories and Recent Development of the Sand Compaction Pile Method as a Countermeasure Against Liquefaction 8.43
- D. L. Shah
C. R. Shah
H. M. Patel
(India) Design of Subsurface Geodrain for Automated Industrial Unit - Case Study 8.45
- Sanjeev Kumar
Nick Burrus
(USA) Effect of Curing Time and Moisture Content of Swelling Potential of Bottom Ash-Bentonite Mixtures 8.47

SESSION 9

Case Histories of Non-Destructive Evaluation and Load Testing of Drilled Shafts, Auger Cast Piles and Driven Piles

- Edward L. Hajduk
Marvin R. Tallent
Donovon L. Ledford
William R.
Christopher
(USA) Crosshole Sonic Logging Integrity Testing for the New Cooper River Bridge 9.02
- Nasser Massoudi
Wondem Teferra
(USA) Non-Destructive Testing on Piles Using the Low Strain Integrity Method 9.03
- Jesus Gomez
Allen Cadden
O. Christopher
Webster
(USA) Micropile Foundations in Karst: Static and Dynamic Testing Variability 9.05



- V. T. Ganpule
S. M. Gupte
(India) Study of Theoretical and Observed Capacities of Bored Cast- in- Situ Piles in Tuff, Braccia and Weathered Basalt 9.06
- Emad Farouz
Paul Landers
Scott Webster
(USA) Case History: Foundation Evaluation for the Virginia Highway 288 Project 9.08
- Roderic A. Ellman, Jr.
Sissy Nikolaou
Mishac K. Yegian
(USA) Foundation Optimization and Design for Replacement of the Woodrow Wilson Bridge 9.11
- Sanjeev Kumar
Cesar Alarcon
Alyass Hosin
(USA) O-Cell Testing of Reinforced Concrete Driven Piles 9.12

SESSION 10

Case Histories of Health Monitoring and Retrofit of Bridges, Tunnels, and other Transportation and Geotechnical Structures

- Holger Netzel
(Netherlands) Empirical, Analytical Methods for Surface Settlement Prediction Due to TBM-Tunnelling in Dutch Soft Soil 10.01
- Prapa Haran
N. Vaikunthan
Steven Brokken
(USA) Seismic Foundation Retrofit of West Stands of Michie Stadium 10.05
- William H. Hansmire
Victor S. Romero
Michael T. McRae
(USA) Multiple Tunnels in Soil with Shotcrete Linings on Tren Urbano, San Juan, Puerto Rico 10.06
- Mario Volante
Elisabetta Scattolini
Enrico Maria
Pizzarotti
(Italy) Injection Consolidation Under the Piers of the Railway Bridges for the Rehabilitation of Line Merano – Malles 10.07
- Nenad Gucunski
Parisa Shokouhi
(USA) Application of Wavelets in Detection of Cavities under Pavements by Surface Waves 10.09



Nenad Gucunski Seismic Pavement Evaluation in Development of Seasonal Variation
Rambod Hadidi Models of Pavement Properties 10.11
Ali Maher
Nick Vitillo
(USA)

Shi Minglei Effectiveness of Dynamic Compaction on Liquefied Foundation in
Songyu Liu Highway Practice 10.12
Yisheng Zhu
Guangyin Du
Peng Ji
Lei Fang
(China)

Jay N. Meegoda A Methodology to Predict the Remaining Service Life of CSCPs
Thomas M. Juliano 10.14
Mutiu G. Ayoola
Sunil Dhar
(USA)

SESSION 11

Case Histories of World Trade Center Foundation Damage and Repairs, JFK Light Rail Foundations, Second Avenue Subway, Path/Subway Restoration, LIRR East Side Access Project and other NY/NJ local projects

Maral Papazian “Value Engineering?” - Changes During Construction 11.01
Bedian
(USA)

John S. Horvath Axial-Compressive Capacities of a New Type of Tapered Steel Pipe
Thomas Trochalides Pile at the John F. Kennedy International Airport 11.02
Andrew Burns
Stanley Merjan
(USA)

Subal Sarkar Geotechnical Investigation and Rock Characterization for the East
Amitabha Mukherjee Side Access Project’s Manhattan Segment 11.03
Aomar Benslimane
Carroll Stewart
(USA)

John S. Horvath A Half Century of Tapered-Pile Usage at the John F. Kennedy
Thomas Trochalides International Airport 11.05
(USA)



- Aomar Benslimane
Raymond J. Castelli
Louis G. Silano
(USA) Micropile Underpinning of the Atlantic Avenue Station 11.06
- Tony D. Canale
James L. Kaufman
George J. Tamaro
(USA) Times Square Redevelopment: A Below Grade View 11.07
- Domenic D'Argenzio
Hiren J. Shah
Hugh S. Lacy
(USA) The Newton Creek Water Pollution Control Plant Upgrade Project: A
Geotechnical Treatment 11.08

SESSION 12
Recent Earthquake Reports

- Lanmin Wang
Zhongxia Yuan
Xu Liu
Yongming Chen
Weifeng Wang
(China) The Geotechnical Hazard Induced by 8.1 Earthquake in West Pass of
Kunlun Mountain in China in 2001 12.02
- Aly M. Mohammad
Anthony S. Crincoli
(USA) Site-Specific Earthquake Ground Motions for the 12th Street and 14th
Street Viaducts on Route 139 in Jersey City, New Jersey 12.03
- Jennifer L. Williams
Nien-Yin Chang
Pedro C. Repetto
(USA) Site Effects on Structure Damage and Surface Ground Motion
Characteristics in Tacna, Peru during June 23, 2001 M_w 8.4
Earthquake 12.04
- Kyle M. Rollins
R. Robert Goughnour
J. K. S. Anderson
Stacey F. Wade
(USA) Liquefaction Hazard Mitigation by Prefabricated Vertical Drains
12.05
- A. R. Katti
(India) Estimate the Magnitude and Nature of Distress the Various Structures
have Undergone due to Recent Bhuj Earthquake 12.07
- Saripalli
Suryanarayana
(India) Effect of Earthquakes in Marshy Lands and Alluvial Soils: Case
Histories 12.09



- R. K. Katti
A. R. Katti
(India) Nature and Properties of Earthquake Energy and Waves and their Contribution to Liquefaction Aspects at Adani Port during 2001 Bhuj Earthquake 12A-3
- Y. Zaslavsky
A. Shapira
M. Gorstein
M. Kalmanovich
(Israel) Estimation of Site Effects in the Israel Seacoast Area by Ambient Noise Records for Microzonation 12A-4
- Zafeiria Roumelioti
Christoforos Benetatos
Anastasia Kiratzi
Nikos Theodoulidis
(Greece) Source Process of Normal Earthquakes: The 3 February 2002, M6.3 Afyon, Turkey and the 7 September 1999, M5.9 Athens, Greece Earthquakes 12A-7
- Mustafa Aktar
Hayrullah Karabulut
Gonca Orgulu
(Turkey)
- Fusao Oka
Lu Chih-Wei
Zhang Feng
(Japan) Effects of Liquefaction on the Numerical Analysis of a Single Pile-soil Interaction during Earthquakes 12A-8
- Joseph Wartman
Adrian Rodriguez-
Marek
David Keefer
Scott Deaton
Pedro Repetto
Emir Jose Macari
(USA) Preliminary Geotechnical Engineering Observations of the Tecoman, Mexico Earthquake of January 21, 2003 12A-9
- Berrak Teymur
(Turkey) A Comparison of Wavelet Analysis of Strong Motion Data of Kocaeli, Duzce and Pulumur Earthquakes, Turkey
S. P. G. Madabhushi
(UK) 12A-10
- Subhamoy
Bhattacharya
Malcolm Bolton
(UK) Errors in Design Leading to Pile Failures During Seismic Liquefaction 12A-12



- B. Ghosh
S.P.G. Madabhushi
(UK) Centrifuge Modelling of Dynamic Soil Structure Interaction in Layered and Inhomogeneous Liquefiable Soil 12A-13
- Christos Vrettos
Stavros Savidis
(Germany) Stone Column Ground Improvement Against Liquefaction for the Preveza-Aktio Immersed Tunnel 12A-14
- S. Suresh Babu
(India) Magneto Rheological Dampers – A New Paradigm in Base Isolation Techniques in Earthquake Engineering 12A-15
- Satish
Pullammanappallil
William Honjas
John N. Louie
(USA) One-Dimensional Shear Wave Profiling for V30 and NEHRP Soil Classification using the Refraction Microtremor (REMI) Method 12A-16
- Wei Zheng
Ronaldo Luna
(USA) Nonlinear Site Response Analysis in the New Madrid Seismic Zone 12A-17
- Robert Kayen
Brian Collins
Gary Carver
Eric Thompson
Eric R.S. Moss
Diane Minasian
Nicholas Sitar
(USA) Geotechnical Observations of the November 3, 2002M.79 Denali Fault Earthquake 12A-18



**CASE HISTORIES
IN GEOTECHNICAL ENGINEERING
NEW YORK, NY - APRIL 13-17, 2004
CD-II**

GENERAL REPORT – TABLE OF CONTENTS

SESSION 1: Case Histories of Shallow, deep and other Foundations, including Soil Structure Interaction

General Reporter: G. E. Leventis (USA)
Co-General Reporters: A. Faiz (Saudi Arabia) M. Lew (USA) M. Alamgir (Bangladesh)
K. Gwizdala (Poland) M. Lewis (CA) K. Bicalho (Brazil) M. Karkee (Japan) G. Russo
(Italy) G. Biesiadecki (USA) R. Katzenbach (Germany) K. Wissmann (VA) N.Y. Chang
(CO) B. Lehane (Australia)

SESSION 2: Case Histories of Dams, Embankments and Slopes

General Reporter: Pedro Simao e Pinto (Portugal)
Co-General Reporters: D. Jones (UK) M. Skempas (Greece) J. Giere (Germany)
V.S. Pillai (Canada) A. Oskoorouchi M. Bidasaria (India) D. M. Dailer (OR)

SESSION 3: Case Histories of Geotechnical Earthquake Engineering and Natural Disasters, including Debris and Mud Flows and Lesson Learned from Loma Prieta 1989, Petrolia 1992, Northridge 1994, Kobe 1995, Turkey 1999, Turkey 1999, Chi-Chi 1999, Greece 1999, Bhuj India 2001 and other recent Earthquakes

General Reporters: G. Madabhushi (UK) S. Steedman (UK)
Co-General Reporters: F. Ciuffi (Italy) G. Estrada (Columbia) E.A. Hausler (CA)
N. Mastaovic (CA) I. Prakash (India) J. Harb (Italy)

SESSION 4: Case Histories of Engineering Vibrations

General Reporters: G. Manyando (OK) H. I. Ling (NY)
Co-General Reporters: S. Sadek (NY) A. Bodare (Sweden)

SESSION 5: Case Histories of Retaining Structures and Deep Excavations

General Reporters: J. Ghaboussi (IL) S.J. Boone (Canada)
Co-General Reporters: R. Alperstein (NJ) J.N. Mandal (India) S.R. Gandhi (India)
S. Kumar (IL) A. Wu (KS) K. Fishman (NY) Y. Hashash (IL)

SESSION 6: Case Histories of Geological, Rock and Mining Engineering, including Underground Structures and Excavations

General Reporter: B. C. Dorwart (NH)
Co-General Reporters: G. R. Fisher (CO) E.A. Button (Switzerland)



SESSION 7: Case Histories of Forensic Engineering, Where Things Went Wrong

General Reporter: F. J. Kenton (CA)
Co-General Reporter: R. M. Semple (NY)

SESSION 8: Case Histories of Soil Property Improvement, use of Lightweight Materials, and Geotechnical and Hydrological Management and Remediation of Solid, Hazardous and Low-Level Radioactive Wastes, including Liner Cover Systems and Landfill Closure for Brownfield Development

General Reporter: D. Dermatas (NJ)
Co-General Reporters: C. Dano (France) D. Yang (CA) D. Shah (India) V. Rajaram (IL)
M. Perlea (MO)

SESSION 9: Case Histories of Non-Destructive Evaluation and Load Testing of Drilled Shafts, Auger Cast Piles and Driven Piles

General Reporter: K. R. Bell (MD)
Co-General Reporter: A.G. Cushing (PA)

SESSION 10: Case Histories of Health Monitoring and Retrofit of Bridges, Tunnels, and other Transportation and Geotechnical Structures

General Reporter: N. Gucunski (NJ)
Co-General Reporter: A. Assis (Brazil)

SESSION 11: Case Histories of World Trade Center Foundation Damage and Repairs, JFK Light Rail Foundations, Second Avenue Subway, Path/Subway Restoration, LIRR East Side Access Project and other NY/NJ Local Projects

General Reporter: S. Sarkar (NY)

SESSION 12: Recent Earthquake Reports

General Reporter: A. Ansal (Turkey)
Co-General Reporters: F. Oka (Japan) K. Rollins (UT)



**CASE HISTORIES
IN GEOTECHNICAL ENGINEERING
NEW YORK, NY APRIL 13-17, 2004**

**Late Papers
CD-II**

- | | |
|---|--|
| George Gazetas (Greece) | General Aspects of the Ms 6.4 Lefkada Island, Greece, 2003 Earthquake: Preliminary Assessment OSP 13 |
| A. Bagherzadeh- Khalkhali Fardin Jafarzadeh Shamsollah Aryanfar (Iran) | A Case Study of a Rockfill Dam for Stress-Strain Analysis (Upper Gotvand Dam; Iran) 2.82 |