

**4<sup>th</sup> International Conference on New Developments in Soil Mechanics and  
Geotechnical Engineering**

**Atatürk Cultural and Congress Center  
Near East University, Lefkoşa, North Cyprus  
June 2 – 4, 2016**

**Conference Programme**

**2 June 2016 Thursday**

08:30 – 09:30 Registration

**GRAND HALL**

09:30 – 10:00 Opening Ceremony

10:00 – 10:10 Coffee Break

10:10 – 10:50 **Keynote Lecture:**

**Chairperson: Professor Feyza ÇİNİCİOĞLU**  
Organising Committee Chair, President, TSSMGE, Turkey

**Professor Antonio GENS**  
Vice-President of the ISSMGE for Europe, Spain  
*Failure of a harbour quay founded on soft ground*

10:50 – 11:30 **Keynote Lecture:**

**Chairperson: Professor Mehmet BERİLGİN**  
Yıldız Technical University, Turkey

**Professor Rolf KATZENBACH**  
Technical University of Darmstadt, Germany  
*New methodologies and developments in forensic geotechnical engineering -  
theory and examples, Katzenbach, R. & Bergmann, C.*

11:30 – 11:40 Coffee Break

11:40 – 13:00

**Special Lectures**

**Chairperson: Professor Ali Ünal ŞORMAN**  
Dean, Faculty of Engineering, Near East University, North Cyprus

**Professor Turan Durgunoğlu, Zetaş, Turkey**  
*Barette Foundations*

**Professor Mete Erdemgil, SMP Engineering Ltd., Turkey**  
*Geotechnical design considering the dependence of pressure and  
displacements in soils*

**Dr. Rasin DÜZCEER, KASKTAŞ, İstanbul, Turkey**  
*Construction of shoring systems for TBM launch and receiving structures of  
Eurasia tunnel, Düzceer, R., Gökalp A. & Adatepe Ş*

**Orhan Esat İnanır, Geogrup İnşaat AŞ., Turkey**  
*Performance based piled foundation design and pile loading tests*

13:00 – 14:00 Lunch

14:00 – 14:40 **Keynote Lecture:**

**Chairperson: Professor Mustafa LAMAN**  
Çukurova University, Turkey

**Professor Dong-Soo KIM**

Korea Advanced Institute of Science and Technology, Korea  
*Physical modeling of the foundation for offshore wind towers*  
Dong-Soo, Kim, Jae-Hyun, Kim, Jun-Tae, Seong

14:40 – 15:20

**Keynote Lecture:**

**Chairperson: Professor Gökhan BAYKAL**  
Boğaziçi University, Turkey

**Professor Ivan VANICEK**

Immediate Past Vice-President of the ISSMGE for Europe, Czech Republic  
*Specific position of earth structures in geotechnical structures design*

15:20 – 15:30

Coffee Break

15:30 – 16:50

**HALL 1**

**SESSION 1: Foundation and slope stability**

**Chair Person: Professor Stefan VAN BAARS**  
University of Luxembourg, Luxembourg

Bearing capacity of circular footing on RFB over granular pile-engineered ground  
*Abhishek, S.V., Rajyalakshmi, K. & Madhav, M.R.*

Numerical investigation of the uplift capacity of inclined anchor plates in sand  
*Emirler, B., Tolun M. & Laman M*

Investigating the failure mechanisms of sandy slopes under seepage using reduced scale laboratory models  
*Akay, A., Özer, A. T., Elbeyli, Y. & Pular, M.*

Evaluation of slopes reinforced with soil nails by finite element analysis  
*Seckin Halat B., Ikizler S.B., Urin F. & Angin, Z.*

A comparison of the methods used for estimating free anchor lengths  
*Cavlaz, C.R. & Akbas, S.O.*

Numerical solution about consolidation process of stone column  
*Uysal, F. & Yildiz, A.*

**HALL 2**  
**SESSION 2: Soil characterization**  
**Chairperson: Müge İNANIR**  
Secretary, TNCSMGE, Turkey

A comparison between the behavior of laboratory and field plate load tests on collapsing soil  
*Shalaby, S. I.*

Shear Strength Properties of Interlocked Eps-Block Geofoam – Ottawa Sand Interface  
*Özer, A. T., Akay, O. & Ateş, Y.*

An influence research on dynamic shear modulus of sandy soils  
*Onur M.I., Tuncan M. & Tuncan A.*

The effects of the polymer fiber contents on the compressive strength of alker  
*Balkis, A. & Darweesh S.*

Effect of moulding water content on freezing-thawing behavior of compacted two clayey soils  
*Işık F., Akbulut R.K., Zaimoğlu A.Ş. & Arasan S.*

Effect of silt size and gradation on cyclic liquefaction of sands  
*Etminan, E., Monkul, M.M. & Şenol, A.*

**HALL 3**  
**SESSION 3: Soil characterization**  
**Chairperson: Assoc. Prof. Dr. Ayşe EDİNÇLİLER**  
Boğaziçi University, Turkey

Effect of pore water chemistry on volume change behavior of expansive clay  
*Vanda, Y. & Bilsel, H.*

On the properties of silt size particles  
*Toğrol, E. & Kıran, F.*

Relationship between the Standard penetration test and pressure meter test: A case study from Izmir  
*Erzin, Y. & Tuskan, Y.*

Estimation of compaction characteristics of lateritic soils  
*Adu-Parkoh, E., Das, B.M. & Atalar, C.*

Parameter analysis of expansive soil  
*Amal, M. & Bahar, R.*

#### **HALL 4**

#### **SESSION 4: New methods in geotechnical engineering**

**Chairperson: Assoc. Prof. Dr. Özer ÇİNİCİOĞLU**

Boğaziçi University, Turkey

UCS characteristics of sand grouted with gloxal blended sodium silicate

*Mollamahmutoğlu, M. & Avci, E.*

Failure mechanisms and corresponding shape factors of shallow foundations

*Van Baars, S.*

Hydraulic capability of polymer-treated GCLs

*Özhan, H.O*

3-D numerical assessment of rammed aggregate pier (RAP) group effects: a geothermal power plant case history site

*Oner L., Kurt Bal E. & Cetin K.O.*

An overview of electrokinetic for soil treatment

*Abiodun, A.A. & Nalbantoglu, Z.*

Bearing capacity of inclined loaded strip foundation on geogrid-reinforced sand

*Sahu, R., Patra, C., Das, B.M & Atalar, C.*

16:50 – 17:00

Coffee Break

17:00 – 18:20

#### **HALL 1**

#### **SESSION 5: Foundation and slope stability**

**Chairperson: Assoc. Prof. Dr. Celal AĞAN**

University of Harran, Turkey

Case study of a slope stability

*Bildik, S., Arslan, A., Misir, G. & Laman, M.*

Numerical study of undrained vertical bearing capacity for embedded strip footings in non-homogeneous clay

*Ouahab, M. Y., Mabrouki, A., Benmeddour, D. & Mellas, M.*

Experimental and theoretical  $N_q$  values for dry and saturated sands

*Yenginar, Y., Olgun, M. & Fidan, B.*

Experimental research on pile groups with different pile arrangements in sandy soils

*Yenginar, Y. & Tan, Ö.*

Finite elements modelling of load-settlement behaviour of strip footings in Gibson's soils

*Zerarka, H. & Bouafia, A.*

Experimentally investigation of the performance of jet grout columns with fine grained cement

*Fidan, B. & Tan, Ö.*

## **HALL 2**

### **SESSION 6: Soil characterization**

**Chairperson: Assoc. Prof. Dr. Huriye BİLSEL**

Cyprus International University, North Cyprus

Determination of effective diffusion coefficient of calcium hydroxide through embankment of construction waste soil

*Kang, J. K., Park, S. Y. & Shin, E. C.*

Numerical modelling of liquefaction tests of fully saturated sands in Csslb

*Eseller-Bayat E. E., Nateghi A., Seyedi Viand S. M. & Jadidoleslam N.*

New relationship on the compressibility of remolded clays

*Eskişar, T. & Altun, S.*

Effects of sample trimming on undrained shear strength of clays

*Akgüner, C. & Kirkit, M.*

The influence of CaCO<sub>3</sub> formed by ureolytic bacteria on the swelling degree of bentonite

*Yıldırım, N., Gurtug, Y. & Sesal, C.*

## **HALL 3**

### **SESSION 7: Earthquake geotechnical engineering**

**Chairperson: Asst. Prof. Dr. Taichi HYODO**

Tokyo University of Science, Japan

The approach of evaluation of mechanical characteristics of chemically stabilized sand based on equivalent granular void ratio

*Hyodo, T.*

Influence of dilatancy on cyclic mobility

*Boduroglu, S. & Cinicioglu, O.*

Impact of climate on the activity of Ain El Hammam landslide, Algeria

*Djerbal, L. & Bahar, R.*

How important the ground strain and pipeline orientation for the seismic damages

*Toprak, S., Nacaroglu, E. & Koc, A. C.*

Analysis of compressive strength properties of cement enhanced sand-bentonite mixtures by Neural Network

*Iravanian, A. & Bolat Kröger, S.*

Ultimate Compressive Capacity of a Group of Equally Spaced Helical Screw Anchors in Sand

*Mukherjee, S. & Mittal, S.*

## **HALL 4**

### **SESSION 8: New methods in geotechnical engineering**

**Chairperson: Assoc. Prof. Dr. Pedro Ferreira**

Estimation of coefficient of consolidation with radial flow by inflection method from in-situ time-settlement plots

*Charan, V. & Madhav, M.R.*

Numerical modelling of geocell reinforced sand considering the actual geometry of geocell

*Sanjei, C. & De Silva, L.I.N*

On the analysis of exec. energies for cont. flight auger piles to reduce costs and to enhance productivity and reliability of foundations

*Ozelim, L.C. de S.M. & Campos, D.J.F.*

Strength properties of cemented and fiber reinforced sands

*Ayraçma, B. & Teymür B.*

New method of producing artificial tropical residual soils from older British Soils

*Sadiq, A., Jefferson, I., Ghataora G. & Culshaw, M.*

19:00 – 21:00

Welcome Reception

**3 June 2016 Friday**

9:15 – 10:35

**HALL 1**

**SESSION 9: Foundation and slope stability**

**Chairperson: Dr. Barış TRAK**

Technical Director (ret.) Council of Europe Development Bank, France

Bearing capacity of strip footings resting on purely cohesive soil subjected to eccentric and inclined loading

*Khitas, N.E.H., Mellas, M., Mabrouki, A. & Benmeddour, D.*

Results from the analyses carried out of the rehabilitation on “Shpilje” Dam

*Karakulev, M. & Cvetkovska, B*

The rock fall protection method with usage of gabionade

*Fidan, B., Yenginar, Y. & Olgun M.*

Infinite Slope Analysis: a statistical approach in risk management

*Albuquerque, B.C.P. & Domingues, V.R.*

Determining of critical safety factors of homogeneous slopes with mathematically models

*Erkan, İ.H., Uray, E. & Tan, Ö.*

Analysis of installation factors of screwed tube piles with grout injection

*Benoot J., Dewaele L., Provoost N. & Kindt P.*

**HALL 2**

**SESSION 10: Soil characterization**

**Chairperson: Asst. Prof. Dr. Ayşe Pekrioğlu BALKIS**

Cyprus International University, North Cyprus

Improvement of engineering properties for road subbase construction using steel slag and fly ash

*Fırat, S., Kardoğan, P.S.Ö., Işık, N.S, Yamak, S. & Yılmaz, G.*

Effect of water salinity on the compaction of sabkha soil of Chott El-Hodna, Algeria

*Messad, A. & Moussai, B.*

The effect of particle shape on fabric formation and soil properties

*Başarı, E. & Altunbaş C.*

Hydromechanical behavior of a compacted mixture (sand/bentonite) used in landfill sites

*Debieche, M. & Kaoua, F*

Creep and rock fatigue

*Erarslan, N. & Ersoy, A.*

**HALL 3:**  
**SESSION 11: Earthquake geotechnical engineering**  
**Chairperson: Professor Ayfer ERKEN**  
Istanbul Technical University, Turkey

Load capacity of stone columns and geosynthetic encased stone columns during and after seismic excitations

*Cengiz, C., Güler, E. & Alexiew, D.*

Effects of earthquake characteristics on site response analyses

*Edinçliler, A. & Çalikoğlu, M.*

Effects of earthquake characteristics on seismic performance of pipelines

*Edinçliler, A. & Toksoy YS.*

Investigation of soil-bedrock models for weak motion station's spectrums

*Özdağ, Ö.C., Akgün, M., Uluğ, A., Tunçel, A. & Dindar, H.*

*Soil liquefaction at Hinode area during 2011 great east Japan earthquakes*

*Toprak ,S., Jinguuji,M., Manav,Y. & Manav,R.*

**HALL 4**  
**SESSION 12: New methods in geotechnical engineering**  
**Chairperson: Assoc. Prof. Dr. Zalihe Nalbantoğlu SEZAI**  
Eastern Mediterranean University, North Cyprus

Numerical study of the bearing capacity of a strip footing near of geosynthetic-reinforced soil retaining walls

*Rahmouni, O., Mabrouki, A., Benmeddour, D. & Mellas, M.*

Comparison between excavatability classification systems in anisotropic rocks

*Janevski, B., Milanovski, M. & Janevska, A.*

Development of a rapid load test method for shallow foundations

*Touma, J., Sadek, S. & Najjar, S*

Methodology for assessing the market value of buildings damaged by geo-hazards

*Cvetkovska,B., Karakulev, M. & Jovanovski, M.*

Marine geotechnical & geophysical survey in complex geological formations

*Birid, K.*

10:35 – 10:45

Coffee Break



## GRAND HALL

10:45 – 11:25

**Keynote Lecture:**

**Chairperson: Professor Kemal Önder ÇETİN**

Middle East Technical University, Turkey

**Dr. Thomas L. HOLZER**

USGS, Menlo Park, USA

*Regional liquefaction hazard mapping - Challenges*

11:25 – 12:05

**Keynote Lecture:**

**Chairperson: Professor Fatma BALIGH**

Vice-President of the ISSMGE for Africa, Egypt

**Professor Ergün TOĞROL**

Honorary President, TSSMGE, Turkey

*Soil mechanics mythology*

12:05 – 12:20

Coffee Break

12:20 – 13:00

**Keynote Lecture:**

**Chairperson: Professor Tuncer EDİL**

University of Wisconsin-Madison, USA

**Professor Lyesse LALOUİ**

Swiss Federal Institute of Technology, Switzerland

*Geotechnical analysis of energy piles*

13:00 – 14:00

Lunch

14:00 – 14:45

Near East Museum visit

## GRAND HALL

14:45 – 15:25

**Keynote Lecture:**

**Chairperson: Assoc. Prof. Dr. Aykut ŞENOL,**

İstanbul Technical University, Turkey

**Professor Braja M. DAS**

Dean Emeritus, California State University Sacramento, USA

*Use of geogrid in the construction of railroads*

15:25 – 16:45

**HALL 1**

**SESSION 13: Foundation and slope stability**

**Chair Person: Dr. Moonkyung CHUNG**

International secretary of KGS, Korea

Investigation of stress distributions under circular footings

*Türedi Y. & Örnek M.*

A deep soil mixing application against soil liquefaction

*Onur M.I., Kilic H.O. & Tuncan M.*

Assessment of bearing capacity of Rigid Piles

*Bouassida, W., Hamdi, E., Bouassida, M & Kharine, Y.*

Evaluating the performance of some geotechnical methods to estimate the sliding surface depth

*Ağan, C.*

Seismic stability of infinite slope under effect of seepage parallel to ground surface

*Şadoğlu, E., Kamiloğlu, H. A. & Yılmaz, F.*

Vertical static loading tests for large diameter deep boring piles in soil conditions of Astana, Kazakhstan

*Zhussupbekov, A. & Omarov, A.*

**HALL 2**

**SESSION 14: Soil characterization**

**Chairperson: Assoc. Prof. Dr. Samir Ibrahim SHALABY**

Suez University, Suez, Egypt.

Failure mechanism of landslides in ophiolites: Sorgun-Çekerek Motorway, Turkey

*Ulamış, K., Elal, D. & Kılıç, R.*

Determining cohesive soil parameters from pressuremeter tests

*Bahar, R.*

Investigation of the vibration isolation performance of EPS geofom wave barriers by field test

*Toygar, O. & Ülgen, D.*

Determination of compressibility parameters of a compact high plastic natural clay with laboratory tests

*Taslak, H.B., Berilgen, S. A., Kılıç, H. & Özener, P. T.*

Numerical modeling of dynamic compaction

*Kayadelen, C. & Altay, G.*

### **HALL 3**

#### **SESSION 15: Earthquake geotechnical engineering**

**Chairperson: Research Professor Jeong Ku KANG**

Incheon National University, Korea

Site characterization for earthquake resistant building design: case study of TRNC  
Nicosia

*Akgün, M., Dindar, H., Atalar, C. & Özdağ, Ö.C.*

Contact stress mapping in geotechnical engineering

*Baykal, G.*

The behaviour of piled raft model foundation under low frequency sinusoidal waves in dry sand

*ÜnseverYüksekol, Y.S. & Matsumoto T.*

Evaluation of soil-foundation-structure interaction for the various foundation types via centrifuge test

*Ha, J.G., Jo, S.B., Park, H.J. & Kim, D.S.*

A simple procedure for soil-structure interaction with modal analysis

*Livaoğlu R.*

Slope failures during the 2010 Elazığ earthquake

*Erken, A., Aksoy, S., Kouchehbagh, B.R., Nomaler, G.Ş. & Diker, D.*

### **HALL 4**

#### **SESSION 16: New methods in geotechnical engineering**

**Chairperson: Dr. Luan C. de S. M. OZELIM**

University of Brasília, Brazil

Influence of preshear stress state and density on shear band geometry

*Arda, Ç., Zafarani, A.R., Bildik, S. & Çinicioğlu, Ö.*

A case study of retaining piles in limestone using plaxis 2d

*Yalçın, H. & Çabalar A.F.*

Implementation of pneumatic muscles in geotechnical laboratory equipment development

*Baykal, G.*

Study on crack density variations during true-triaxial tests on Inada Granite

*Panaghi, K., Golshani, A., Takemura, T., Sato, M. & Takahashi, M.*

Continuum-based modelling of geotechnical applications involving finite deformation

*Hamad, F., Moormann, C., Gowda, S. & Stolle D.*

16:45 – 17:00 Coffee Break

17.00 – 17:30 Closing Ceremony

19:30 – 21:30 Gala Dinner

**4 June 2016 Saturday**

9:00 – 18:00 **Technical Visit Kyrenia – Nicosia - Famagusta**