

2017

International Conference on Recent Developments and Innovations in Geotechnics & High Rise Structures

8.00 am
16th, 17th & 18th May, 2017



سلطة دبي للمجمعات الإبداعية
DUBAI CREATIVE CLUSTERS AUTHORITY

Day 1: International Conference Agenda

08.00 - 08.40	Registration
08.40 - 08.50	Welcome note by MIDAS
08.50 - 09.00	Welcome note by DCCA

Session I

09.00 - 09.45	Identification of Soil and Rock Parameters by scientific Interpretation of Field Measurements	Prof. Rolf Katzenbach
9.45 - 10.30	Challenges for Tall Building Foundation Design	Prof. Harry Poulos
10.30 - 10:45	Break	
10:45 – 11.30	2D & 3D Modelling and Seepage Analysis in Deep Excavations and Design of Deep Foundation Piles - A Case Study	Prof. H. Turan Durgunoğlu
11:30 – 12:15	Tall Buildings-The Art of Structural Design	Dr. Khaled Ismail
12:15 – 13:00	Tailored Ground Improvement Methods for Safe Foundation of Heavily Loaded Structures	Prof. Michal Topolnicki

Session II

14:00 – 14:30	Lessons learnt from deep excavations in Dutch historic cities	Dr. Mandy Korff
14:30 – 15:00	Using of Smart Memory Alloys in multi-story structures	Dr. Hisham Nada
15:00 – 15:30	Design soil and rock pressures behind Retaining Walls	Dr. Andrew Smith
15:30 - 16:00	Break	
16:00 - 16:30	Post tensioned slabs in high rise buildings: issues in design	Dr. Ayman Hussain
16:30 – 17:00	Modeling and Rectification of Differential Settlement of Large Tanks on Non-Uniform Deep Sabkha Reinforced with Stone Columns- A Case Study	Dr. Saad A. Aiban
17:00 – 17:30	Structures	Yet to be Declared

Day 2: Workshop Agenda

9:00-9:30

Registration

Sessions

9:30 - 9:40	Introduction: Different foundation types	Prof. Harry Poulos
9:40 - 10:10	Pile settlement and introduction to pile-soil Interaction	Dr. Andrew Smith
10:10 - 10:40	Introduction & concept of CPRF and discussions on pile-soil interaction	Prof. Harry Poulos
10:40 - 11:00	Q&A	
11:00 - 11:15	Break	
11:05 - 11:35	Principal of Load Deformation Behavior	Prof. Rolf Katzenbach
11:35 - 12:05	Design Principles including Step-by-Step Analysis, Guidelines & Optimization.	Prof. Rolf Katzenbach
12:05 - 12:35	Modelling of cases study and Economical Design Benefits	Prof. Rolf Katzenbach
12:35 - 12:50	Q&A	
12:50 - 13:50	Break	
13:50 - 14:10	Geotechnical Information and Approach to Design and Submissions	Benoit Latapie
14:10 - 14:25	Interaction between Structural Design and Ground Behavior – Who should do the SI Interpretation?	Dr. Andrew Smith
14:25 - 15:20	Panel Discussions on Contentious Issues: <ul style="list-style-type: none"> • IBC code on pile-raft design • Geotechnical information, who prepares and uses them. • Authorities stipulations • SI contractors as 3rd party reviewer of design 	ALL
15:20 - 15:35	Break	
15:35 - 16:05	Panel Discussions on Contentious Issues: <ul style="list-style-type: none"> • Introduction – ICD Brookfield and additional cost to project due to following issues • Authorities stipulations • Crack width control • Ko Ka issues for retaining wall design • Thermal shrinkage • Wind – pile-raft interaction 	BSBG ALL
16:05 - 16:30	General Discussion & Closing Remarks	

Day 3: Site Visit Agenda

8:45 - 9:00

Bus to Site

Sessions

9:00 - 9:15

Introduction to Project

Andrew Lipshut

9:15 - 9:45

Main Operational Challenges

Swissboring

9:45 - 10:15

Main Geotechnical Challenges

Dr. Andrew Smith

10:15 - 10:30

Refreshments

10:30 - 11:30

Site Walk

11:45 - 12:15

Open Discussion / Questions

Prof. Rolf Katzenbach

12:15 - 12:30

Short Lunch

Prof. Rolf Katzenbach

12:30 - 1:00

Return Bus

Prof. Rolf Katzenbach



Prof. Dr. –Ing Rolf Katzenbach

Brief Introduction about the Author

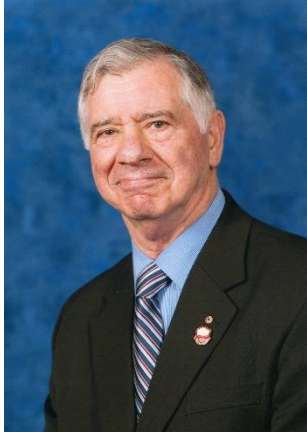
Professor Dr.-Ing. Rolf Katzenbach is the Director of the Institute and Laboratory of Geotechnics at the Technische Universität Darmstadt, Germany. He is a board member of several international and national organizations. Professor Katzenbach is member of the chamber of engineers and Publicly Certified Expert of Geotechnics and Independent Checking Engineer working with his expertise for national and international courts of justice, arbitration committees, insurance companies, state ministries, building authorities and big national and international financial institutions and investors.

“Identification of Soil and Rock Parameters by scientific Interpretation of Field measurements”

Abstract: Prof Rolf Katzenbach

One of the most challenging fields of geotechnical engineering is the correct specification of soil and rock parameters. As the significance of lab tests is very limited because of the extremely small dimension of the specimen it is very helpful if it is possible to identify the strength and the stiffness of soil and rock by the back analysis of field measurements if those data are available.

By example of the scientific interpretation of large scale field tests (pile load tests) and of creeping slopes due to the time dependent rheological behavior of the materials the methodology and the modelling procedure of the qualified identification of the real strength and of the real stiffness of soil and rock in-situ is described in detail.



Prof. Harry Poulos

Brief Introduction about the Author

Prof. Harry Poulos is currently a Senior Consultant with the Coffey group in Sydney, and is also an Emeritus Professor at the University of Sydney. He has undertaken research into the analysis and design of pile foundations for onshore and offshore applications, and in recent years, for high-rise buildings. He has been involved in a large number of major projects in Australia and overseas including the Egnatia Odos highway project in Greece, the Burj Khalifa tower in Dubai, the Dubai tower in Doha, Qatar, and the Crown Tower in Sydney.

“Challenges for Tall Building Foundation Design”

Prof Harry Poulos

Abstract: Some of the challenges facing the designers of foundations for tall buildings will be discussed and procedures for overcoming these challenges will be proposed. These procedures will be illustrated via three examples: the Burj Khalifa in Dubai, the Incheon 151 Tower in South Korea, and a tall building on karstic ground in Saudi Arabia.



Prof. Dr. Michal Topolnicki

Brief Introduction about the Author

Prof.Dr. Michal Topolnicki is Senior Technical Advisor at Keller Holding GmbH. He is professional engineer since 1989 and taught at various university across Germany. He has Co-authored 3 books and author/co-author of about 170 scientific papers.

“Tailored Ground Improvement Methods for Safe Foundation of Heavily Loaded Structures ”

Prof. Dr. Michal Topolnicki

Abstract:

Addressed is the gap which often exists in the geotechnical praxis between conventional piling and alternative ground improvement solutions. The lecture focuses on the application of advanced ground improvement methods to satisfy restrictive bearing capacity and settlement criteria of heavily loaded structures, such as high rise buildings as well as infrastructure and industrial objects. The selected techniques are presented, and the underlying design philosophy is explained with reference to international examples of application.



Prof. H. Turan Durgunoğlu

Brief Introduction about the Author

Dr. Durgunoğlu is professor at Department of Civil Engineering, Boğaziçi University and acting Chairman at Zetaş Zemin Teknolojisi A.Ş., Turkey. Dr. Durgunoğlu is the author of over one hundred eighty national and international papers and nearly two hundred geotechnical engineering technical and research reports. He was very keen on the interaction of soil survey and modelling, geotechnical design, construction and instrumentation and monitoring. Based on high level of know-how developed over the years in analysis, technology and construction, Zetas became one of the pioneer in value engineering.

“2D & 3D Modelling and Seepage Analysis in Deep Excavations and Design of Deep Foundation Piles” - A Case Study

Prof. H. Turan Durgunoğlu

Abstract: Case study of a live project, “Luxury Residential Tower – Dubai Marina, UAE” will be discussed in the session. Main focus will be on the Geo-Technical applications like Enabling Water Works including Shoring, Piling, Dewatering and Instrumentation Monitoring, Excavation etc.,



Dr. Andrew Smith

Brief Introduction about the Author

Dr Andrew Smith has over thirty years' experience in geotechnical engineering. He has worked on a wide range of projects, ranging from highway works through deep piled foundations for both offshore and onshore structures to deep excavations. He is particularly known for his ability to address problems that require strong analytical skills and a thorough understanding of theoretical soil mechanics. He is also well known as a lecturer: he gave the presentations that won the 2008 Fleming prize and 2009 Engineers Ireland Geotechnical Prize, and has recently been invited to present a lecture to the City University's MSc course on the design of temporary works.

“Design soil and rock pressures behind Retaining Walls”

Dr. Andrew Smith

Abstract: Structural engineers designing retaining walls for basements need to be able to assess the pressures exerted on the walls by the ground that they are retaining. The presentation will use simple soil and rock mechanics theory and the results of some analyses from the ICD Brookfield project to illustrate how rational assessments of horizontal ground pressures may be made.

Brief Introduction about the Author



Dr. Mandy Korff

Dr. Mandy Korff works as expert in the field of underground construction, risk management, forensic geo-engineering, soil structure interaction and impact of construction activities and earthquakes on structures. She contributed to projects such as the Amsterdam subway (North South line), the Delft railway tunnel and projects in Singapore. Since 2016 Dr. Korff is part time associate professor of geotechnical engineering practice in Delft University of Technology. Many of her projects included some sort of forensic engineering and impact assessment related to underground construction works. Dr. Korff is chair of the Geotechnical section of the Royal Institute of Engineers (KIVI) and the country representative for the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE).

“Lessons learnt from deep excavations in Dutch historic cities”

Dr. Mandy Korff

Abstract:

Several case histories from Dutch underground deep excavation projects are presented in this lecture, including the lessons learned and the learning processes involved. Details are given on the analysis of about 50 deep excavations in The Netherlands, for which a claim situation has arisen between 1995 and 2012. Three cases are evaluated in more detail. In these detailed cases of underground construction projects systematic learning took place.

Brief Introduction about the Author



Dr. Khaled Ismail

Dr. Khaled is a Chartered Engineer with over twenty years of experience in structural engineering. He has worked on a wide range of projects, ranging from high-rise building to long span structures, in Dubai and Middle East. He is a principal engineer at e.construct/fnp- Dubai company.

“Tall Buildings-The Art of Structural Design”

Dr. Khaled Ismail

Abstract: Structural design of tall buildings is an art and science. Through innovative solutions and collaboration with the Architect, hand-made structural solutions are delivered which achieve the Architect vision and client brief. In this presentation examples from actual projects with their structural solutions will be demonstrated.

Brief Introduction about the Author



Dr. Saad A. Aiban

Dr. Aiban is a Professor at the Department of Civil and Environmental Engineering, King Fahd University of Petroleum & Minerals, Dhahran, Saudi Arabia. He is also the Founder and Senior Advisor of Maeen Engineering Consultancy, Jubail, Saudi Arabia with over thirty-five years of experience in geotechnical and geo-environmental engineering. He has extensive experience on a wide range of projects involving foundation and construction optimization; soil stabilization and ground improvement; engineering properties of eastern Saudi soils and their Improvement; modeling of geotechnical problems; and experimental geomechanics.

Dr. Aiban is working with petrochemical companies in the assessment and rehabilitation of concrete and steel structures, pipes and tanks using Carbon Fiber Reinforced Polymers (CFRP).

“Modeling and Rectification of Differential Settlement of Large Tanks on Non-Uniform Deep Sabkha Reinforced with Stone Columns- A Case Study.”

Dr. Saad A. Aiban

Abstract:

The presentation will give details on the assessment methodology using stone columns and outcomes and post reconsolidation monitoring of large steel tanks resting on soft soils. Lessons learned from this case will be discussed.



Dr. Ayman Hussein Hosny Khalil

Brief Introduction about the Author

Prof. Khalil is the founder and director of Arabia for Design and Engineering Consulting (ADEC), and is also Professor of Reinforced Concrete Structures, Ain Shams University. He has undertaken research into the analysis and design of punching of flat slabs and seismic analysis of concrete buildings. Further, he is currently involved in the design of several buildings in the new Cairo Capital utilizing post tensioning for large span floors.

“Challenges for post tensioning in Tall Buildings”

Dr. Ayman Hussein Hosny Khalil

Abstract:

The presentation will provide an introduction for the design of post tensioned floors for tall buildings. In addition, it will give highlights for the latest research topics in Ain Shams University that dealt with PT floors. Challenges in design such as temperature effects and column shorting effects will be introduced. Experience with design of PT slabs in Egypt (which is different from that in the gulf region) will be presented.

Workshop Speakers



Benoît Latapie

Brief Introduction about the Author

A Chartered Principal Geotechnical Engineer acting as Technical Manager for Atkins MENA ground engineering team. Benoit is expert in simplifying complex problems and streamlining their delivery which is an asset on large design and build projects. He is very experienced in understanding soil-structure interaction mechanisms using advanced numerical modelling tools to provide economic yet safe engineering solutions. Benoit's experience extends to a wide variety of sectors and spans across many countries. He has experience with all main ground engineering applications and with all design progression stages, from feasibility to construction support.

Technical/Organizing Committee

Mr. Marwan Alzaylaie
Mr. Ravi Kiran
Mr. Mike Bevan
Dr. Ying Tay
Dr. Ahmed Alkadi
Mr. Faizur Rahman
Mr. Guido Freitag
Mr. Sherif Atef
Mr. Humaid Shaikh

Sr. Manager, Geotechnical Design DCCA
Regional Director- MIDAS
Geotechnical Manager Middle East, Coffey
Associate Geotechnical, Coffey
Senior Consultant / Researcher, Deltars
Sr. Manager– Structural Design, DCCA
General Manager – Keller UAE
Design & Estimation Manager – Keller UAE
Post graduate- Heriot Watt