

**XVI Danube-European Conference on Geotechnical Engineering**  
**XVI Donau-Europäische Konferenz für Geotechnik**

**GEOTECHNICAL HAZARDS AND RISKS:  
EXPERIENCES AND PRACTICES**  
**GEOTECHNISCHE GEFAHREN UND RISIKEN:  
ERFAHRUNGEN UND PRAXIS**



**Skopje, 07-09.6.2018**

**CONFERENCE PROGRAM**  
**KONFERENZPROGRAMM**

Venue / Veranstaltungsort: hotel Aleksandar Palace



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[www.issmge.org](http://www.issmge.org)

## WELCOME MESSAGE / WILLKOMMENSNACHRICHT

Honorable guests, dear friends,

On behalf of the Macedonian Association for Geotechnics (MAG) and the Organizing Committee (OC), we are pleased to welcome you all to the 16<sup>th</sup> Danube-European Conference on Geotechnical Engineering (XVI DECGE) in Skopje, R. Macedonia (RM), 07-09.6.2018!

The Conference is held under the auspices of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE), with the support of the International Tunneling and Underground Space Association (ITA), while co-organizers are University “Ss. Cyril and Methodius” – Skopje, the Faculty of Civil Engineering, the Chamber of Certified Architects and Certified Engineers of RM and the Engineering Institution of Macedonia. Moreover, General patron of this Conference is the President of the Republic of Macedonia, H.E. Gjorge Ivanov.

The theme of the XVI DECGE is “Geotechnical hazards and risks: experiences and practices”. The idea comes from the several catastrophic events in the past years, not only in the region. So, it is more than evident that risk assessment and management are required in all aspects of geotechnical issues, such as planning, design, construction, maintenance and restoration of structures. International exchange of information is of crucial importance today to advance knowledge and experience in this scientific and practical field. Thus, more than 150 papers from all around the world about influence of geotechnical hazards on infrastructure, landslides, man-made slopes, earthworks, deep excavations, dams, tailings dams, slope failure repair, flood hazards, earthquakes, bridge foundations, tunneling, karts environments, problematic materials, physical and numerical modeling, soil-structure interaction, behavior of unsaturated and saturated materials etc. have been received.

In that sense the logo was designed. Namely, the blue waves symbolize the Danube River, the rivers of RM and the water, as one of the major provoker of instabilities. Slopes are the ones that are endangered, but here there are with light green color, compromise between Macedonian mountains and sun, stimulating environmental aspects and giving pass to the stabilization solution. This is possible with pile, as part of XVI, resisting and calming the water, heading down to the firm rock, the black horizontal line. It will follow us during the rich program of the XVI DECGE, consisted of Plenary session, parallel sessions, ISSMGE and ITA lectures, technical visits, exhibition and social events. Moreover, a day prior to the Conference, ISSMGE has Board meeting, ITA – which will also have its Executive Committee’s meeting here – delivers a seminar, while prof. Heinz Brandl, one of the initiators and symbol of continuity of this 54-years long-lasting and very vital regional conference, is honored with State Recognition Medal, giving thus tribute to the whole geotechnical society!

This is the first time that DECGE is organized in RM. Its capital, Skopje, is more than 2000-years old city, during which, due to the turbulent history, was privileged to be elected as capital of other countries. But, it has also suffered at times from different risk events, yet has always risen up and gratefully carries the title City of solidarity. Today it is dynamic and vivid point where cultures and nations from East to West and from North to South co-exist, as well as it is home town of Mother Theresa. Guests have opportunity to savor the city with our friendly people and we sincerely believe that all participants that joined us in the XVI DECGE journey will have a fruitful conference and will witness unforgettable moments during their stay in R. Macedonia – the land of nature and cradle of culture, sun, wine and warm hospitality. Enjoy it!

With best regards,



**Prof. Milorad Jovanovski**

President of MAG

Chairman of OC of the  
XVI DECGE



**Prof. Ljupčo Dimitrievski**

Vice-president of MAG

Co-chairman of OC of the XVI  
DECGE

## **CONFERENCE COMMITTEES / KONFERENZ KOMITEES**

### **HONORARY PATRON OF THE CONFERENCE / EHRENPATRON**

Prof. Gjorgje Ivanov – President of the Republic of Macedonia

### **HONORARY COMMITTEE / EHRENKOMITEE**

Prof. Nikola Jankulovski – Rector of UCM

Prof. Hristina Spasevska – President of EIM

Prof. Darko Moslavac – Dean of FCE

Prof. Mile Dimitrovski – President of CCACERM

### **CONFERENCE ADVISORY COMMITTEE / KONFERENZBEIRAT**

Prof. Charles Wang-wai Ng – President of ISSMGE 2017-2021

Prof. Roger Frank – President of ISSMGE 2013-2017

Prof. Neil Taylor – Secretary General of ISSMGE

Prof. Mario Manassero – Vice-President for Europe 2017-2021

Prof. Antonio Gens – Vice-President for Europe 2013-2017

Prof. Heinz Brandl – Chairman of XV DECGE 2014

Prof. Peter Turček – Chairman of XIV DECGE 2010

Prof. Janko Logar – Chairman of XIII DECGE 2006

### **SCIENTIFIC COMMITTEE / WISSENSCHAFTLICHES KOMITEE**

Prof. Luljeta Bozo, Albania

Prof. Sanda Manea, Romania

Prof. Dietmar Adam, Austria

Prof. Alfred Gotman, Russia

Assoc.prof. Azra Špago, Bosnia and Herzegovina

Prof. Mirjana Vukićević, Serbia

Assoc.prof. Nikolay Kerenčev, Bulgaria

Prof. Jana Frankovská, Slovakia and Czech R.

Prof. Leo Matešić, Croatia

Prof. Vojkan Jovičić, Slovenia

Prof. Ivo Herle, Germany

Prof. Lyesse Laloui, Switzerland

Prof. Edina Koch, Hungary

Prof. Safiye Feyza Cinicioglu, Turkey

Prof. Nicola Moraci, Italy

Prof. Yuriy Slyusarenko, Ukraine

Prof. Spasen Gjorgjevski, R. Macedonia

Prof. Olivier Vion, France, ITA

Prof. Alojzy Szymanski, Poland

Prof. Davorin Kolić, Croatia, ITA

### **ORGANIZING COMMITTEE / ORGANISATIONS KOMITEE**

Prof. Milorad Jovanovski, President of MAG, Chairman

Prof. Ljupčo Dimitrievski, Vice-President of MAG, Co-Chairman

Asst.prof. Jovan Br. Papić, Secretary General of MAG, Secretary

Prof. Vlatko Šešov, Immediate Past-President of MAG

Elena Angelova, Secretary Technical

### **CORE MEMBERS / MITGLIEDER DES VORSTANDES**

Prof. Vasil Vitanov, Past President of MAG

Vase Vitanov

Assoc.prof. Josif Josifovski, FCE

Keti Dolnenec V'čkova

Prof. Kosta Talaganov

Vančo Angelov

Prof. Spasen Gjorgjevski, FCE

Zlatko Ilijovski

Prof. Ljupčo Petkovski, FCE

Dragan Dimitrievski

Asst.prof. Igor Peševski, FCE

Nikola Gjorgjevski

Bojan Susinov, FCE

Dragan Minovski, PE for Electricity Production

Asst.prof. Kemal Edip

Zoran Kitanov, PE for State Roads

**KEYNOTE, SPECIAL AND INVITED LECTURERS /  
EXKLUSIV EINGELADENE VORTRAGENDE**



**Heinz Brandl**

Em.o.Univ.Prof., Dipl.-Ing., Dr.techn., Dr.h.c.mult.  
Technical University in Vienna, Austria

*Hydraulic failure by underseepage of dykes and levees*



**William van Impe**

Em.Prof., Past ISSMGE President, Ghent University  
Owner, AGE advanced geo-engineering, Belgium

*Some data on long term large screw pile group behavior*



**Ahmed Saglam**

Prof. Dr., Istanbul Technical University  
Owner, ENARGE, Turkey

*Comparison of field loading test results of bored piles with bearing capacity analysis based on various standards*



**Ivan Vaniček**

Prof. MSc. (Civ. Eng.) DIC., PhD., DSc.  
Technical University in Prague, Czech Republic

*Interaction of transport infrastructure with natural hazards (landslides, rock falls, floods)*



**Krishna R. Reddy**

PhD, PE, BCEE, DGE, FASCE, ENV SP  
Professor of Civil & Environmental Engineering, Department of Civil & Materials Engineering, University of Illinois at Chicago, USA

*Green and sustainable remediation of polluted sites: new concept, assessment tools, and challenges*



**Miško Čubrinovski**

Prof. Dr., Department of Civil and Natural Resources Engineering, University of Canterbury, New Zealand

*Liquefaction hazards from “inherited vulnerabilities”*



**Federica Cottechia**

Prof. Dr., Technical University of Bari, Italy

***Geo-hydro-mechanics for quantitative landslide hazard assessment (QHA)***



**Mounir Bouassida**

Professor of civil engineering at the National Engineering School of Tunis of the University of Tunis, El Manar, Tunis

***Optimized design of foundations on soil reinforced by floating columns***



**Peter Day**

Prof. Dr., South African Institute for Engineering and Environ.Geologists

***Practical application of reliability-based design with examples including reliability assessment of design approach DA2\****



**Hussein Mroueh**

Prof. Dr., University of Lille Sciences & Technologies, Department of Civil Engineering at Polytech, Lille, France

***Design charts for geothermal piles under various thermo-mechanical conditions***



**Tarcisio B. Celestino**

President of ITA, Sao Paulo, Brazil

***Recent achievements in tunnelling industry: solving hot spots*** (tentative)




## WEDNESDAY, 06.6.2018

08:00 – 09:00 Registration for ITA training seminar  
“RISK ANALYSIS AND MANAGEMENT IN TUNNELLING”

09:00 – 19:00 Registration for XVI DECGE  
“GEOTECHNICAL HAZARDS AND RISKS: EXPERIENCES AND PRACTICES”

09:00 – 18:30 ITA training seminar (Congress Hall 3)  
“RISK ANALYSIS AND MANAGEMENT IN TUNNELLING”

19:00 – Welcome Reception (summer yard; with appropriate music); sponsored by   
Exhibition Opening

## THURSDAY, 07.6.2018

08:00 – 09:00 Registration

09:00 – 11:00 Opening Ceremony (Congress Hall 1)  
Chairman: prof. Ljupčo Dimitrievski (MKD), prof. Mario Manassero (ITA)

09:00 – 09:40 Opening Speeches

*Prof. Gjorgje Ivanov, President of the Republic of Macedonia*

*Prof. Charles W.W. Ng, President of ISSMGE, Hong Kong, China*

*Prof. Tarcisio B. Celestino, President of ITA, Sao Paulo, Brazil*

*Prof. Nikola Jankulovski, Rector of UCM*

*Prof. Mario Manassero, Vice-President of ISSMGE for Europe 2017-2021*

*Prof. Milorad Jovanovski, President of MAG, Chairman*

09:40 – 09:50 Introductory Lecture  
Some data about geotechnical engineering in the Republic of Macedonia  
*Prof. Milorad Jovanovski, President of MAG, Chairman*

09:50 – 10:30 Lecture  
Hydraulic failure by underseepage of dykes and levees  
*Prof. Heinz Brandl, Technical University in Vienna, Austria*

10:30 – 11:00 Piano Performance by Maestro Simon Trpčeski

11:00 Group photo of XVI DECGE participants

11:00 – 11:30 Coffee Break / Exhibition (Congress Hall 2); Sponsored by Faculty of Civil Engineering – Skopje

11:30 – 13:00 Plenary Session (Congress Hall 1)  
Chairman: prof. Charles W.W. Ng (HK), prof. Vlatko Šešov (MKD)

11:30 – 12:00 Lecture  
Liquefaction Hazards from “Inherited Vulnerabilities”  
*Prof. Miško Čubrinovski, University of Canterbury, New Zealand*

12:00 – 12:30 Lecture  
Recent achievements in tunnelling industry: solving hot spots  
*Prof. Tarcisio B. Celestino, University of São Paulo, Brazil*



- 12:30 – 13:00 Lecture  
Green and sustainable remediation of polluted sites: new concept, assessment tools, and challenges  
*Prof. Krishna R. Reddy, University of Illinois at Chicago, USA*
- 13:00 – 14:00 Lunch
- 14:00 – 15:40 Parallel Sessions (Congress Hall 1, Congress Hall 3)
- 15:40 – 16:10 Coffee Break / Exhibition / Poster Session
- 16:10 – 18:10 Parallel Sessions (Congress Hall 1, Congress Hall 3)
- 18:10 – 18:30 Poster Session
- 18:30 – Partial Saturation social event: testing typical Macedonian drinks (Congress Hall 2)

## **FRIDAY, 08.6.2018**

- 09:30 – 10:30 Plenary Session (Congress Hall 1)  
Chairman: prof. Neil R. Taylor (UK), prof. Milorad Jovanovski (MKD)
- 09:00 – 09:30 Lecture  
Geo-hydro-mechanics for quantitative landslide hazard assessment (QHA)  
*Prof. Cottechia Federica, Technical University of Bari, Italy*
- 09:30 – 09:50 Lecture  
Comparison of field loading test results of bored piles with bearing capacity analysis based on various standards  
*Prof. Ahmed Saglam, Istanbul Technical University, Turkey*
- 09:50 – 10:10 Lecture  
Optimized design of foundations on soil reinforced by floating columns  
*Prof. Mounir Bouassida, University of Tunis, El Manar, Tunis*
- 10:10 – 10:30 Lecture  
Green and sustainable remediation of polluted sites: new concept, assessment tools, and challenges  
*Prof. Hussein Mroueh, University of Lille, France*
- 10:30 – 11:00 Coffee Break / Exhibition (Congress Hall 2); Sponsored by Faculty of Civil Engineering – Skopje
- 11:00 – 12:40 Parallel Sessions (Congress Hall 1, Congress Hall 3)
- 12:40 – 13:00 Exhibition / Poster Session
- 13:00 – 14:00 Lunch
- 14:00 – 15:40 Parallel Sessions (Congress Hall 1, Congress Hall 3)
- 15:40 – 16:10 Coffee Break / Exhibition / Poster Session
- 16:10 – 18:00 Parallel Sessions (Congress Hall 1, Congress Hall 3)
- 18:00 – 18:30 Meeting of the DECGE societies (Hall 2, mezzanine)
- 20:00 – Gala Dinner (Congress Hall 4)  
Program: Macedonian folklore dance; compilation of domestic and international music



## **SATURDAY, 09.6.2018**

09:00 – 10:30 Parallel Session, Topic “C” (Congress Hall 1)

10:30 – 11:00 Coffee Break / Exhibition / Poster Session; sponsored by SLP



11:00 – 12:10 Plenary Session (Congress Hall 1)

Chairman: prof. Pedro Simao Seco e Pinto (POR), representative of next DECGE host

11:00 – 11:20 Lecture

Practical application of reliability-based design with examples including reliability assessment of design approach DA2\*

*Prof. Peter Day, South African Institute for Engineering and Environmental Geologists*

11:20 – 11:40 Lecture

Some data on long term large screw pile group behavior

*Prof. William van Impe, Ghent University, Belgium*

11:40 – 12:10 Lecture

Interaction of transport infrastructure with natural hazards (landslides, rock falls, floods)

*Prof. Ivan Vaníček, Technical University in Prague, Czech Republic*

12:10 – 12:30 Exhibition (Congress Hall 2)

12:30 – 13:00 Closing Ceremony (Congress Hall 1)

*Prof. Milorad Jovanovski, President of MAG, Chairman*

*Host of DECGE XVII*

13:00 – 13:30 Lunch Pack / Farewell

13:30 Technical Visits (departure from the venue)

## **TECHNICAL VISITS**

After the Closing ceremony on 09.6., several both technical and touristic tours will be organized:

Field Trip 1: Demir Kapija-Smokvica section of Corridor 10 and visit of local winery

Field Trip 2: Miladinovci-Štip highway and visit of location with archaeological and geological specificities

Field Trip 3: Matka dam, visit of museum, St. Andrew's / St. Mary's monastery and boat trip to cave

Field Trip 4: Kozjak / Sv. Petka dam, sightseeing of improved high rock slopes and visit of Marko's monastery

## **ACCOMPANYING PERSONS' PROGRAM**

Rich and interesting program has been planned for the accompanying persons. During the first day (07.6.), a trip to the City and Lake Ohrid is planned, known as UNESCO's Cultural and Natural World Heritage Sites. The second day (08.6.) is dedicated to sightseeing of Skopje and introducing of its turbulent history and exciting quarts, while on the third day (09.6.) it is planned to take a look of the Skopje's surrounding.



## APPURTENANT PROGRAM

### WEDNESDAY, 06.6.



08:00 – 18:00 ISSMGE Board Meeting (Hall 2, mezzanine)

09:00 – 18:30 ITA /AITES training seminar “RISK ANALYSIS AND MANAGEMENT IN TUNNELLING”  
(Congress Hall 3)



09:00 – 09:15	Welcome address	Prof. Milorad Jovanovski Prof. Darko Moslavac, President of MATUS – ITA Macedonia
09:15 – 09:30	Opening address	Prof. Tarcisio Celestino – ITA President
09:30 – 10:15	Introduction to Risk Management by ITA WG2	Prof. Tarcisio Celestino
10:15 – 11:00	Risk Analysis Methods and Application Areas	Prof. Davorin Kolić
11:00 – 11:15	Coffee break	
11:15 – 12:00	Risk Management from Designer’s Point of View	Eric Leca
12:00 – 12:45	Risk Management by Big Size TBM Projects	Nasri Munfah
12:45 – 13:00	Questions and answers	
12:45 – 14:00	Lunch	
14:00 – 14:45	Reliability Analysis of Underground Works	Prof. Tarcisio Celestino
14:45 – 15:30	Control in Drilling and Blasting to Minimize Excavation Risks	Peka Nieminen
15:30 – 16:00	Coffee break	
16:00 – 16:45	Case study – Risk Management for Riyadh Metro in S. Arabia	Eric Leca
16:45 – 17:30	Case Study – Risk Management for Alto Maipo Hydro Scheme in Chile	Prof. Davorin Kolić
17:30 – 17:45	Questions and answers	
17:45 – 18:15	“Tunnels 2 – Guidelines of ITA-AITES” Book Promotion	Prof. Tarcisio Celestino, Olivier Vion, prof. Davorin Kolić
18:15 – 18:30	Final Remarks and Closing	Eric Leca, Olivier Vion, Milorad Jovanovski, Darko Moslavac

### THURSDAY, 07.6. & FRIDAY 08.6.



09:00 – 18:00 ITA / AITES Executive Committee Meeting (Hall 2, mezzanine)

## PARALLEL SESSIONS

### THURSDAY, 07.6.

Thursday 7<sup>th</sup> June, Time: 14:00 – 15:40 (100 min) – Congress Hall 1

Methods for hazard assessment / Methoden zur gefahrenereinschätzung

Chairman: prof. Feyza Cinicioglu (TUR), Zlatko Ilijovski (MKD)

AUTHORS	PAPER TITLE
BÁN Zoltán, MAHLER András, GYŐRI Erzsébet	Performance of liquefaction assessment method based on combined use of Cone Penetration Testing and shear wave velocity measurement
BOJADJIEVA Julijana, SHESHOV Vlatko, EDIP Kemal, KITANOVSKI Toni, CHANEVA Jordanka	In-situ and laboratory methods for liquefaction hazard assessment
OLINIC Ernest, MANEA Sanda, BOTI Ioan, COMAN Cr., BURLACU C., PANTEL Gh.	On the elaboration of landslide hazard and risk maps in Romania
NAGY Gábor, NAGY László	Assessing engineering problems related to soil dispersibility
TOWHATA Ikuo, GUNJI Keigo	Experimental interpretation of seismically induced instability of mountain slopes
VOLLMERT Lars, HOFMANN Robert	Steinschlagschutzdämme – Geokunststoffbewehrte Bautypen
TAGARELLI Vito	Activities of ISSMGE's Technical Committee 208 – Slope Stability

Thursday 7<sup>th</sup> June, Time: 14:00 – 15:40 (100 min) – Congress Hall 3

Risk assessment and management in geotechnical eng. / Risikoabschätzung und risikomenagement

Chairman: prof. Dietmar Adam (AUT), Dragan Dimitrievski (MKD)

AUTHORS	PAPER TITLE
ABOLMASOV Biljana, MARJANOVIĆ M., MI-LENKOVIĆ Sv., PEJIĆ M., BERISAVLJEVIĆ Z.	Rockfall simulation on a rock slope along E75 road at km 890+725 to 891+093
DONEVSKA Katerina, PESHEVSKI Igor, KOSTADINOV Trajce	Groundwater pollution threats in the Republic of Macedonia due to uncontrolled landfills
JOVIĆIĆ Vojkan, GALUF Saša, MUHIĆ Elvir	Risk mitigation measures against falling rock at Jelicni vrh
KATZENBACH Rolf, BERGMANN Christiane	Methodology of geotechnical risk analysis for a steep creeping slope at a 160 m high valley bridge
KERENCHEV Nikolay, MIHOVA Lena	Geotechnical consideration of the cut-and-fill slope problems related to the Struma motorway construction
KOVAČEVIĆ Meho Saša, JURIĆ KAĆUNIĆ Danijela, LIBRIĆ Lovorka, BAČIĆ Mario	Risk assessment in reconstruction of flood protection embankments due to climate change
MACIJASKAS, Darius, HECHLER Oliver, GREGOR Oliver	Transforming tomorrow with innovative steel solutions for flood protection
MARJANOVIĆ Miloš, ABOLMASOV Biljana, ĐURIĆ Uroš, KRUSIĆ Jelka	Assessment of landslide-related hazard and risk on the road network of the Valjevo city, Serbia

Thursday 7<sup>th</sup> June, Time: 16:10 – 18:10 (120 min) – Congress Hall 1

Repair and maintenance strategies of geotechnical structures / Strategie für die sanierung und instandhaltung von geotechnischen konstruktionen

Chairman: prof. Jana Frankovska (SVK), prof. Darko Moslavac (MKD)

AUTHORS	PAPER TITLE
BARBIR Olja, ADAM Dietmar, KOPF Fritz, PISTROL Johannes, AUER Florian, ANTONY B.	Development of condition-based tamping process in railway engineering
BERGER Markus, LEIBNIZ Otto, MARTE Roman	Rütteldruckverdichtung zur Verringerung der Wasserdurchlässigkeit sowie zur Erhöhung der Suffosionsstabilität
DUMITRESCU Victor, CHIRIAC Ioan	Road consolidation and banks protections structures on the Romanian Danube sector in the Iron Gates National Park
EBBERT Simon, WILKE Markus, CARBONE Laura	Geosynthetic tubes for pit lake bank stabilization
MĂGUREANU Alexandru, SATA Lóránt, BITIR Andrea C., MATHIEU Fabrice, HULPUȘ Tr.-A.	Underpinning works under existing shallow foundations in Blaj - Romania using Springsol® technology
MANOV Hristifor, CVETKOVSKI Pero, SOJAT Damir	Solutions for hazards on access road to dam Sveta Petka
MIHALJEVIĆ Ivan, GALIĆ Josip, BANOVAĆ Filip	Geotechnical and structural remediation of residential building damaged by pit excavation
NAGY Andor-Csongor, CÎRCU A.P., ILIEȘ N.M., MOLDOVAN D.V., GHERMAN C.M., PÉTER A.	Soil stabilization with modern hydraulic binders. Variations of geotechnical parameters
PERMINOV Nicolay, PERMINOV Andrey	Geotechnical and geoecological methods of protecting urban underground collectors (experience of St. Petersburg)
WENDELER Corinna, BUDIMIR Vjekoslav, DENK Mathias	Debris flow protection with flexible ring net barriers – 10 years of experience

Thursday 7<sup>th</sup> June, Time: 16:10 – 18:10 (120 min) – Congress Hall 3

Risk assessment and management in geotechnical eng. / Risikoabschätzung und risikomenagement

Construction risk management / Risikomenagement bei der bauausführung

Chairman: prof. Edina Koch (HUN), prof. Igor Peševski (MKD)

AUTHORS	PAPER TITLE
LUNGU Irina, COPILAU Jenel, STANCIU Anghel, BEJAN Florin	Construction management in zones with landslide risk
MESIC Muhamed	“It’s always the contract!”: legal risks and chances for geotechnical work in Central and South-Eastern Europe
SONDERMANN Wolfgang, KUMMERER Clemens	Geotechnical opportunity management - subsoil conditions as an opportunity and a risk
VARDANEGA P., CRISPIN J., GILDER Ch., VOYAGAKI E., SHEPHEARD C., HOLCOMBE E.	Geodatabases to improve geotechnical design and modelling
MARIC Mario, COPEK Gorazd, VOLLMERT Lars	Sealing of upper basin for hydraulic power plant Brežice
PULKO Boštjan, BATTELINO Lilian, LOGAR Janko	Foundation of 20,000 m <sup>3</sup> tanks on soft soils from risk assessment point of view

CIORTAN Romeo, MANEA Sanda, VASILACHE Eugeniu	Engineering judgement for deep excavation in urban area
DAUWE Ludger, FRÖHLICH Bernhard, WEIDINGER Andreas	Risk management during construction of a new road tunnel crossing under a 150 year old railway tunnel
DEPORTA Christoph, WONDRE Joachim, ZÖHRER Alexander	Modern risk management applied to a large infrastructure site

### FRIDAY, 08.6.

Friday 8<sup>th</sup> June, Time: 11:00 – 12:40 (100 min) – Congress Hall 1

Parameters and modelling / Parameter und modelierung

Chairman: prof. Wolfgang Sondermann (GER), prof. Josif Josifovski (MKD)

AUTHORS	PAPER TITLE
AKBAY ARAMA Zülal, YARAMIŞ Melek, ÇİNİCİOĞLU S. Feyza	A design approach for piles adjacent to embankments
AKSOY H. Suha, OZPOLAT Aykut, GOR Mesut	Effect of excavation on settlements and bearing capacity of a foundation
BATALI Loretta, DRĂGUŞIN Andrei, POPA Horațiu	Numerical modelling by finite elements for a pile foundation under lateral cyclic action
BOGUSZ Witold, WITOWSKI Marcin	Variability of overconsolidated soils from Poland in geotechnical practice
BRANCAZ David, LUCAS Eric, TIGOULET Alain, GAPIKJ Irina	In Demir Kapija, a 25 meters high reinforced earth® wall supports the Corridor X
CINAR F. Tugce, BOZBEY Ilknur, KELESOGLU M. Kubilay	A numerical study to evaluate the performance of deep mixed columns
DUMITRESCU Victor	Navigation waves influence on the banks protection stability for the Romanian inland waterways linking Danube with the Black Sea
ANGELOVA Elena, PESHEVSKI Igor, JOVANOVSKI Milorad	Methodology for determination of rock durability with special attention to waste rock from metallic mineral deposits

Friday 8<sup>th</sup> June, Time: 11:00 – 12:50 (110 min) – Congress Hall 3

Geotechnical codes and design methods / Geotechnische codes und berechnungsmethoden

Chairman: prof. Zbigniew Lechowicz (POL), prof. Ljupčo Petkovski (MKD)

AUTHORS	PAPER TITLE
BONIĆ Zoran, ROMIĆ Nikola, DAVIDOVIĆ Nebojša, PROLOVIĆ Verka, ZLATANOVIĆ E.	Experimental and theoretical analysis of punching shear of column footings according to <i>fib</i> MC 2010
DIMITRIEVSKI Ljupco, DIMITRIEVSKI Dragan, DIMITRIEVSKI Teodor, BOGOEVSKI Boris, DIMITRIESKA Vesna, NEDELKOVSKA Angela	Several cases of application of geosynthetics in Macedonian engineering practice
ENE Alexandra, POPA Horatiu, BATALI Loretta, IONESCU Ionela, MIRITOIU Roxana	Examples for evaluation of material factoring approach using staged construction in numerical models
FENG Shuyin, VARDANEGA Paul J., IBRAIM Erdin, WIDYATMOKO Iswandaru, OJUM Ch.	Assessing the hydraulic conductivity of road paving materials using representative pore size and grading entropy
KOUDELKA Petr	Design reliability of slopes of different soil group masses

KRAUS Ivan, CEROVEČKI Adriana	Comparison of free-field and foundation input motions from experimentally tested built environments
NUZHDIN Leonid, PAVLYUK Kseniya	Influence of deformation anisotropy of soils on the distribution of stresses in basement of foundation from near loaded areas
TRAK Bariş, PAPIĆ Br. Jovan	Stability of earth structures and relevance of safety factors
WOLF Ákos, RAY Richard P.	Pile design for kinematic and inertial effects: a parameter study

Friday 8<sup>th</sup> June, Time: 14:00 – 15:40 (100 min) – Congress Hall 1

Parameters and modelling / Parameter und modelierung

Chairman: Igor Sokolić (CRO), prof. Zlatko Zafirovski (MKD)

<b>AUTHORS</b>	<b>PAPER TITLE</b>
GAINA Alexandra Alisa, STANCIU Anghel, NICUTA Ana, LUNGU Irina	Ground response analysis of Bahlui Clay as a foundation layer
IMRE Eموke, FITYUS Stephen	The use of the grading entropy as a measure of the soil texture maturity
JANEVSKI Bojan, MILANOVSKI Mome	Comparison between limit equilibrium approach and finite element method for slope stability analysis in anisotropic rocks with low quality
JOCKOVIĆ Sanja, VUKIĆEVIĆ Mirjana	Critical state constitutive model for overconsolidated clays – HASP model
JOSIFOVSKI Josif, SUSINOV Bojan	A case study of rainfall-triggered slope instability using projected extremes
KOCH Edina, HUDACSEK Péter, SZEPESHÁZI Róbert, KEGYES-BRASSAI Orsolya	3D Modelling of train-track interaction at bridge transition
KÖKTEN Özgen, GHALANDARI M Taher, YILDIZ Ersan	Displacement based design of multi level anchored deep excavations

Friday 8<sup>th</sup> June, Time: 14:00 – 15:40 (100 min) – Congress Hall 3

Reliability of geotechnical predictions / Verlässlichkeit von geotechnischen einschätzungen

Chairman: prof. Nikolay Kerenčev (BUG), prof. Kemal Edip (MKD)

<b>AUTHORS</b>	<b>PAPER TITLE</b>
ATALAR Cavit, DAS Braja M.	Recent landslides in North Cyprus
CHAUMENY Jean Luc, KANTY Piotr, REITMEIER Tobias	Remarks on wet deep soil mixing quality control
FREITAG Peter, MARTAC Eugen, REICHENAUER Thomas	On the effectiveness of site investigation in regard to project costs – a case study
GEGA Mirva, SUKAJ Silvana	Geotechnical assessments of plain terrain fortifications in Albania
JAZVIN Ena, ŠPAGO Azra	Modelling of stadium stand foundation in poor soil conditions
KURT BAL Ece, ONER Lale, CETIN Kemal Onder	Performance monitoring of Rammed Aggregate Piers: a stockyard case history site

BLUME Karl-Heinz, ALEXIEW Dimiter, RAITHEL Marc	Lateral pressure relief at a bridge by Geosynthetic Encased Columns: latest experience
DÜZCEER Rasin, GÖKALP Alp, ADATEPE Şenol	Design, construction and performance of single bore multiple anchored diaphragm wall in Turkey

Friday 8<sup>th</sup> June, Time: 16:10 – 18:00 (110 min) – Congress Hall 1

Parameters and modelling / Parameter und modelierung

Chairman: prof. Iacint Manoliu (ROM), prof. Sonja Lepitkova (MKD)

<b>AUTHORS</b>	<b>PAPER TITLE</b>
MULABDIĆ M., MINAŽEK Kr., LEKO-KOS M., ORTOLAN Ž., KALUĐER J., MATIJEVIĆ J.	A case of complex geotechnical conditions for a water treatment facility
NAGY Péter, ADAM Dietmar, KOPF Fritz, FREITAG Peter	Experimental and theoretical investigation of deep vibro compaction
PAP Miklós, MAHLER András, NEHME Salem Georges	Finite element modelling of seepage in concrete
POPA Horatiu, ENE Alexandra, MIRITOIU Roxana, IONESCU Ionela, MARCU Dragos	Back analysis of an embedded retaining wall for a deep excavation in Bucharest
RAKIĆ Dragoslav, STANIĆ Nemanja, BASARIĆ Irena, FILIPOVIĆ Vladimir	Geotechnical conditions for construction of bank revetment on the Sava amphitheater area in Belgrade Serbia
SAS Wojciech, GLUCHOWSKI A., GABRYŚ K., SOBÓL E., SZYMAŃSKI A.	Resilient modulus testing with application of cyclic CBR test for road subgrade materials
SHEPHEARD C.J., VARDANEGA P.J., HOLCOMBE E.A., HEN-JONES R., DE LUCA F.	On the variability of the effective friction angle of Saint Lucian soils: investigations through a laborat.database
EDIP K., SHESHOV VI., BOJADJIEVA J., KITANOVSKI T., CHANEVA J.	Numerical simulation of triaxial tests

Friday 8<sup>th</sup> June, Time: 16:10 – 18:00 (110 min) – Congress Hall 3

Reliability of geotechnical predictions / Verlässlichkeit von geotechnischen einschätzungen

Chairman: prof. Biljana Abolmasov (SRB), prof. Spasen Gjorgjevski (MKD)

<b>AUTHORS</b>	<b>PAPER TITLE</b>
KÖKTEN Özgen, YILDIZ Ersan	A study on the reliability analysis of a deep excavation supported with anchored pile walls
MAČEK Matej, SMOLAR Jasna, PETKOVŠEK Ana	Settlement prediction of gypsum sludge based on different test methods
MUŠEC Peter, FRANKOVSKÁ Jana, JANTÁK Viktor	Ground improvement methods for road construction in Slovakia
NUZHDIN Leonid, MIKHAYLOV Victor	Models and calculation methods of the pile foundation in SCAD Office
PLANKEL Anton, ALEXIEW Dimiter	Landslide stabilization with geogrids in Lech: a pioneer project 25 years ago
PULKO Boštjan, LOGAR Janko	Effect of elastoplastic stone columns on consolidation rate of soft soil
SCHNEIDER-MUNTAU Barbara, CORDES Tobias	Comparison of measured and calculated interactions between slope creeping and tunnel structures



SOKOLIĆ Igor, VUKADINOVIĆ Bojan	Design of deep foundation for Osijek city water treatment plant
ŠPAGO Azra, HADROVIĆ Armin, HAJDUK Ismet, JAZVIN Ena	Stability analysis of “Kukovi” landslide

## SATURDAY, 08.6.

Saturday 9<sup>th</sup> June, Time: 9:00 – 10:30 (90 min) – Congress Hall 1

Parameters and modelling / Parameter und modelierung

Chairman: prof. Vojkan Jovičić (SLO), prof. Katerina Donevska (MKD)

<b>AUTHORS</b>	<b>PAPER TITLE</b>
CHANEVA Jordanka, BOJADJIEVA Julijana, SHESHOV Vlatko, EDIP Kemal, KITANOVSKI T.	Application of deterministic and probabilistic - SPT based liquefaction assessment triggering models
SHAH Manish, JOSE Jerome, GANDHI Abhay, PRASAD Parmeshwar	Shear and compressibility characteristics of leachate based MSW using geotextile reinforced stone columns
TSCHUCHNIGG Franz, OBERHOLLENZER Simon, SCHWEIGER Helmut	Slope stability analyses considering non-associated plasticity: application to boundary value problem
UHLIG Markus, HERLE Ivo	Prognoseverfahren zur Bestimmung der zeitabhängigen undrainierten Scherfestigkeit von Tagebaukippen
VARDANEGA Paul J., O’KELLY Brendan C., HAIGH Stuart K., SHIMOBÉ Satoru	Classifying and characterising fine-grained soils using fall cones
WRZESIŃSKI Grzegorz, LECHOWICZ Zbigniew, SULEWSKA Maria J.	Application of artificial neural networks for the prediction of undrained shear modulus in cohesive soils
ŽIVALJEVIĆ Slobodan, TOMANOVIĆ Zvonko, MILADINOVIĆ Borko	Creep behaviour of a layered soft rock around the tunnel opening

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