

EUROENGEО 2020

3RD EUROPEAN REGIONAL CONFERENCE OF IAEG

ATHENS

Leading to Innovative
Engineering Geology Practices

6-10 October 2021

> **Divani Caravel Hotel**

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Organised by the National Group of Greece of IAEG





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WELCOME

Dear colleagues and friends,

It is with great honor and responsibility to organize the 3rd European Regional Conference of the International Association of Engineering Geology and the Environment (IAEG) in Athens but also host the IAEG official meetings for 2021.


A regional conference of IAEG in Europe is essential for our International Association, since almost half of IAEG National Groups and members come from the European continent. Hence, the re-activation of the European Regional Conference (ERC) of IAEG, to be taking place every 2 years, was proposed by Vassilis Marinos and Eugene Vosnesensky- Vice Presidents for Europe. The last (2nd ERC) was held in Madrid back in 2006. Therefore, when the IAEG National Group of Greece in collaboration with IAEG's Vice Presidents for Europe requested to organize the 3rd ERC in Athens Greece in September 2020, EuroEngeo2020 was initiated.

My intention was to thoroughly discuss several issues regarding the promotion of IAEG and to encourage the advancement of Engineering Geology in our region. As part of this effort, several visits were scheduled in order to meet the presidents and representatives of the IAEG coming from certain National Groups. Fortunately, most of the promotional visits for IAEG were physically carried out in several countries, before the imposed lockdowns in Europe due to the Covid-19 pandemic, while others were eventually rescheduled in accordance with travel restrictions. Multiple meetings and fruitful discussions took place during my visits in the European region.

We discussed about "Engineering Geology core values" and the trend of deviation of Engineering Geology, as seen internationally. Cases are observed with departure from the common ground in Engineering Geology, Soil Mechanics and Rock Mechanics. Hence, an overall highlight from the meetings was that the definition and scope of Engineering Geology needs to be revisited and revised. What happens so often to the Geology that may be eclipsing in Engineering Geology? Where is the integration of Geology to Engineering as seen in the research papers or applied papers in journals? Such questions and more led to the idea of holding such conference, to service as a productive and educative channel into validating, reconsidering and/or renewing our values and definitions.

Meanwhile, the Covid-19 crisis came to our lives and we had to postpone the conference. Twice. Still, the main goal of the IAEG and the organizing committee of the conference was to host an event with physical presence and face to face effective discussions. We defended this decision with all the uncertainties and risks. Given the latest hygiene conditions and offered possibilities, the solution to make a hybrid event comprising both in-person conference and plenary sessions in live streaming, was then established.

The conference aims to bring together leading experts from academia and the industry in order to highlight the current milestones and analysis regarding the fields of Engineering Geology and Geohazards. Solutions are proposed on preventing and tackling challenges relating to landslides and geotechnical failures of all kinds, by





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using new technological techniques and innovations. The global development of land uses which have been inaccessible until recently, and the realization of demanding infrastructure projects, bring focus to the topics of Geohazards and Geo-Engineering risks. Research advancements and the study of the construction of tunnels is always showcased. It is an object of ours with a lasting character.

Finally, another core subject present in the IAEG Conference is the role of Engineering Geology in Geotechnical Engineering, as well as the respective environmental implications.

In this point, we would like to sincerely thank all our Sponsors for contributing to the organization of the EuroEngeo2020. The support of many companies was very important due to the uncertainties we have been facing in organizing the conference. The engineering geological - engineering community embraced our conference.

The Conference has been put under the aegis of the Ministry of Infrastructure and Transport and the support of the City of Athens. Realization of the conference objectives is underlined through the special interest shown by Ministry, Universities, Institutes and Private Companies. We are grateful to them.

The Organizing committee is indebted to the International Association of Engineering Geology, the President Rafiq Azzam and the Secretary Faquan Wu for their support and cooperation. Sincere thanks are expressed to the members of the Advisory and Scientific Committee. We carry also our great gratitude to the participants, authors, invited lecturers and chairmen for their contributions.

To organise a hybrid event is a real challenge in these times. There are many opportunities to promote IAEG through hybrid events like this. Our wish though, is to meet all again in person, discuss new ideas, create wonderful memories and built stronger relations for well promoting IAEG and our objectives. We are really happy to achieve an IAEG event in person in Europe and we welcome all of you that came physically in Athens or convene with us virtually.



With many thanks and gratitude,

Vassilis P. Marinos

Chairman of the 3rd European Regional Conference of IAEG
Vice President of the IAEG for Europe





COMMITTEES

Organizing Committee

Vassilis Marinos	Chairman of the Conference – Vice President of IAEG for Europe
Constantinos Loupasakis	Co-Chairman of the Conference – President of Greek NG of IAEG
Charalambos Saroglou	Co-Chairman of the Conference – Secretary of Greek NG of IAEG
Georgios Stoumpos	Secretary of the Conference – NG of IAEG
Andreas Kaplanidis	Treasurer of the Conference – NG of IAEG
Rafiq Azzam	President of IAEG – Germany
Faquan Wu	Secretary of IAEG – China
Eugene Vosnesensky	Vice President of IAEG for Europe-Russia
Louise Vick	Chairman of YEG of IAEG – Norway
Stratis Karantanellis	IAEG NG of Greece – YEG Chair
George Papathanassiou	IAEG NG of Greece
Nikos Depountis	IAEG NG of Greece

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Fleurisson Jean-Alain	Treasurer of IAEG – France
Giordan Daniele	President of Italian NG of IAEG
Hutchinson Jean	Vice President of IAEG for N. America
Johnson Doug	Vice President of IAEG for Australasia – IAEG NG of New Zealand
Kazilis Nikos	IAEG NG of Greece
Kuroschi Thuro	Representative of IAEG NG of Germany
Reeves Helen	Representative of IAEG NG of UK
Stavropoulou Maria	IAEG NG of Greece
Ulusay Resat	Editor in chief of BOEG- President of ISRM – IAEG NG of Turkey
Verhoef Peter	Representative of IAEG NG of Nederland
Vlachopoulos Nikos	Representative of IAEG NG of Canada
Waeber Julien	Representative of IAEG NG of USA
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Charitaras Vassilis
Chrysothemis Paraskevopoulou
Cohen-Waeber Julien
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Delgado Carlos
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Vosnesensky Eugene
Wasoski Janusz
Wu Faquan
Yiouta-Mitra Paraskevi
Zanglarn Christian





KEYNOTE SPEAKERS



Dr. Dominique Ngan-Tillard

Assistant Professor, Faculty of Civil Engineering and Geosciences, Delft University of Technology



Dr. Christian Zangerl

University of Natural Resources and Life Sciences, Vienna (BOKU), Institute of Applied Geology Department of Civil Engineering and Natural Hazards



Professor D. Jean Hutchinson

Department of Geological Engineering at Queen's University, Kingston, Canada



Professor Reşat Ulusay

Department of Geological Engineering, Hacettepe University and Middle East Technical University (METU), Ankara, Turkey



Dr. Helen Reeves

Senior Associate Director for Engineering Geology, Jacobs



Professor Kuroschi Thuro

Department of Engineering Geology, Technical University of Munich, Germany





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Professor Simon Löw

Chair for Engineering Geology, Department of Earth
Sciences ETH, Zurich, Switzerland



Professor Eugene A. Voznesensky

Department of Engineering and Environmental Geology,
Lomonosov Moscow State University, Russia



Adjunct Professor Jonny Sjöberg

Department of Rock Mechanics and Rock Engineering,
Luleå University of Technology, Sweden General Manager,
Itasca Consultants AB, Sweden



Dr. Janusz Wasowski

Senior geologist at CNR-IRPI (National Research Council -
Institute for Geo-hydrological Protection) in Bari, Italy



Professor Neil Dixon

Professor of Geotechnical Engineering in the School
of Architecture, Building and Civil Engineering at
Loughborough University, UK





PROGRAM

FRIDAY OCTOBER 8th 2021

ROOM A

09:00-09:30	Opening Ceremony
09:45-10:20	Opening Lecture: Simon Loew The biggest challenges in landslide hazard analysis and mitigation
10:20-10:45	RWP Winner Presentation
10:45-11:00	Coffee Break - Exhibition & Posters
11:00-13:00	Analysis and Mitigation of Geohazards Chairs: Exarchou A., Depountis N.
11:00-11:30	Key Lecture: Christian Zangerl Investigation, monitoring and modelling of landslides
11:30-11:45	Rock mass characterisation for rock slope instabilities using aerial photogrammetry and 3D Point Cloud Model interpretation C. Saroglou, D. Kong, F. Wu, V. Kallimogiannis, A. Tsirogianni, N. Bar
11:45-12:00	Investigation of deep geohazard sites with seismic and ambient noise methods, combined with 3D Geomodelling Hans-Balder Havenith, Lena Cauchie, Anne-Sophie Mreyen
12:00-12:15	Rockfalls occurrence administration along with the road network: an operative methodology for local standardized management in alpine territory Daniele Giordan, Martina Cignetti, Danilo Godone, Davide Bertolo, Marco Paganone
12:15-12:30	Implementing a novel ANN ensemble model based on machine learning models for landslide susceptibility mapping Paraskevas Tsangaratos, Anastasios Balampanis, Constantinos Loupasakis
12:30-12:45	Spatial characteristics of a deep-seated gravitational slope deformation case in Taiwan: insights from long-term, multiple types of geodetic surveys Pai Chiao Lo, Ya Chu Chiu, Tai Tien Wang, Wei Lo
12:45-13:00	Sponsor Presentation - Metrica
13:00-14:00	Lunch Break - Exhibition & Posters
14:00-16:00	Analysis and Mitigation of Geohazards Chairs: Wasowksi J., Loupasakis K.
14:00-14:30	Key Lecture: Kuroschi Thuro Hazard assessment and monitoring of landslide prone areas in Medellín, Colombia
14:30-14:45	A multi-instrument and multidisciplinary landslide assessment: The case of Monesi Landslide, Ligurian Alps (NW Italy) Davide Notti, Aleksandra Wrzesniak, Niccolò Dematteis, Piericola Lollino, Nunzio Luciano Fazio, Francesco Zucca, and Daniele Giordan
14:45-15:00	Geohazard evaluation in central Nepal Himalaya with focus on landslide Prem Bahadur Thapa
15:00-15:15	Real-time monitoring of landslides with the use of inclinometer and GNSS instrumentation Nikolaos Depountis, Katerina Kavoura, Nikolaos Sabatakakis, Panagiotis Argyrakis, Kostas Chousianitis, George Drakatos





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ROOM A

15:15-15:30	The application of empirical rainfall thresholds towards shallow landslide probability estimation in fire-affected areas Spyridon Lainas, Nikolaos Depountis, Nicholas Sabatakakis
15:30-15:45	Deep and remote monitoring approaches of large slope instabilities in Upper Graveglia Valley (Ligurian Apennine, Italy) Danilo Godone, Paolo Allasia, Marco Baldo, Davide Notti, Giorgio Lollino, Francesco Faccini, Franco Marco Elter, Federico Mantovani, Flavio Poggi
15:45-16:00	Forest Fires' impact on Landslide Susceptibility Assessment Constantinos Nefros, Constantinos Loupasakis, Gianna Kitsara
16:00-16:15	Coffee Break - Exhibition & Posters
16:15-18:00	Analysis and Mitigation of Geohazards Chairs: Thuro K., Saroglou C.
16:15-16:30	Liquefaction phenomena triggered by the March 2021, Thessaly, Greece seismic sequence George Papathanassiou, Sotiris Valkaniotis, Athanassios Ganas, Riccardo Caputo
16:30-16:45	Vulnerability of road infrastructure exposed to earthquake-induced landslides: a case study from Lefkada island, Greece Sotirios A Argyroudis, George Papathanassiou, Sotiris Valkaniotis, Vassilis Marinos, Mike G Winter
16:45-17:00	Effect of temperature on the evolution of post-earthquake landslides Marco Loche, Luigi Lombardo, Ali P Yunus, Filippo Catani, Hakan Tanyaş, William Frodella, Xuanmei Fan, Gianvito Scaringi
17:00-17:15	State of knowledge delineation of Deep-seated Gravitational Slope Deformation impact on anthropic elements: the Western Italian Alps case Martina Cignetti, Danilo Godone, Francesco Zucca, Davide Bertolo, Daniele Giordan
17:15-17:30	Earthquake - induced landslides in the island of Lefkada triggered by the November 17, 2015 event and assessment of landslide susceptibility Aglaia Matsakou, Vassilis Marinos, George Papathanassiou, Sotirios Valkaniotis, Athanasios Ganas
17:30-17:45	Assessing the effect of the coefficients of restitution on rockfall trajectory Pavlos Asteriou
17:45-18:00	Development of a web-based landslide inventory map of Attica Region, Greece Nikolaos Tavoularis, Panagiotis Argyrakis, George Papathanassiou, Athanasios Ganas
18:00-19:00	IAEG Commissions Meetings
20:00	Official Dinner





PROGRAM

FRIDAY OCTOBER 8th 2021

ROOM B

10:45-11:00	Coffee Break - Exhibition & Posters
11:00-13:00	Recent Advances in Geomatics and Remote Sensing for use in Engineering Geology Chairs: Gokceoglu C., Papathanasiou G.
11:00-11:30	Key Lecture: Janusz Wasowski Recent advances in Remote Sensing for use in Engineering Geology
11:30-11:45	InSAR in monitoring of underground civil works in urban areas. Case of Glòries square, Barcelona Joan Botey Bassols, Pierre Gerard, Enric Vázquez-Suñé, Michele Crosetto, Anna Barra
11:45-12:00	New ground truth and space borne data for the verification of land subsidence occurring at the coastal zone of Athens, Greece Agavni Kaitantzian, Constantinos Loupasakis, Ploutarchos Tzampoglou, Issak Parcharidis
12:00-12:15	Integrating 3D point clouds and machine learning for intelligent rock slope environments development Ioannis Farmakis, David Bonneau, D. Jean Hutchinson, Nicholas Vlachopoulos
12:15-12:30	Rock strength of a rock cliff evaluated through infrared thermography Marco Loche, Gianvito Scaringi, Jan Blahůt, Maria Teresa Melis, Antonio Funedda, Stefania DaPelo, Ivan Erbi, Giacomo Deiana, Mattia Alessio Meloni, Fabrizio Cocco
12:30-12:45	Rockmass characterization and evaluation of rock fall potential based on traditional and SfM-based methods George Papathanassiou, Adrián Riquelme, Theofilos Tzevelekis, Evaggelos Evaggelou
12:45-13:00	An Integrated Object-Based Analysis with UAV Imagery and Machine Learning for site-specific Mass Movement Assessment Efstratios Karantanellis, Vasilis Marinos, Emanuel Vassilakis, Basile Christaras
13:00-14:00	Lunch Break - Exhibition & Posters
14:00-16:00	Engineering Geology for Engineering Works Chairs: Jean-Alain Fleurisson, Zangerl C.
14:00-14:30	Key Lecture: Jonny Sjöberg Engineering geology for civil and mining engineering — case examples from Sweden
14:30-14:45	Engineering Geological detailed aspects impacting on the foundation and watertightness of the Julius Nyerere HPP Main RCC Dam, in Tanzania Nikolaos Kazilis, Maria Kazili





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ROOM B

14:45-15:00	The Application of Advanced Numerical Models in Capturing Complex Rockmass Behaviour Ioannis Vazaios, Anastasios Stavrou
15:00-15:15	A probabilistic approach to deal with uncertainty in tunnelling Antonios Skolidis, Dr. Chrysothemis Paraskevopoulou, Dr. Vassilis Marinos
15:15-15:30	Geotechnical Block Model (GBM) of Olympias Mine Using Q Classification System N. Grendas, E. Vagkli, M. Yumlu, G. Gkekas, D. Bogas
15:30-15:45	Stability Assessment of Fractured Dolomite and Marl Rock Masses in a Tunnel Ákos Török, Péter Görög, László Rózsa
15:45-16:00	Sponsor Presentation - Geotest
16:00-16:15	Coffee Break - Exhibition & Posters
16:15-18:00	Engineering Geology for Engineering Works Chair: Stoumpos G.
16:15-16:30	Tunnel Collapse Due to the Insufficient Umbrella System: A Case Study from Turkey Ebu Bekir Aygar, Candan Gökçeoğlu
16:30-16:45	Subsoil litho-technical reconstruction via multivariate geostatistical tools Giovanna Vessia, Diego Di Curzio
16:45-17:00	D8 motorway landslide: largest construction accident in recent Czech history Jan Blahůt, Josef Stemberk, David Mašín, Jan Klimeš, Filip Hartvich, Josef Rott, Jan Balek, Petr Tábořík and Michal Kusák
17:00-17:15	Investigating the impact of Geological Uncertainty in Cost Overruns of Tunnelling Projects Georgios Boutsis, Dr. Chrysothemis Paraskevopoulou
17:15-17:30	Water level variation and slope stability analysis in a pit lake E. Steiakakis, G. Syllignakis, M. Galetakis, D. Vavadakis
17:30-17:45	Proposed Engineering Measures and Analysis of Tunnel Portal Excavated in Paleo-Landslide Deposits (Bahçe – Nurdag Tunnel, Turkey) Yunus Emre Özyürek, Aslı Can, Kemal Acar, Candan Gökçeoğlu
17:45-18:00	Investigation of the Effects of Hydraulic Connection Between Neighboring Valleys and Geologic Structure on Dam Site Selection R. Karagüzel, H. T. Yalçın, C. Yalıtırak
18:00-19:00	YEG Event





PROGRAM

SATURDAY OCTOBER 9th 2021

ROOM A

09:00-10:45	Engineering Geology and Cultural Heritage Protection Chairs: Kazilis N., Paraskevopoulou C.
09:00-9:30	Key Lecture: Dominique Ngan-Tillard Engineering geology applied to archaeology at risk across the Dutch plain and archives
09:30-9:45	Profiling of the recent deposits of Nafplio coastal plain (Greece) from engineering geological modelling and geophysical surveys C. Saroglou, F. Bozzano, S. Martino, Mouzakiotis, V. Karastathis, A. Tsirogianni, A., Antonielli B., Ciampi P., Fiorucci M., Iannucci R., Incicchi D., C. Maniatakis, S. Rivellino, A. Antoniou, A. Papadimitriou
09:45-10:00	Parametric simulations on the stability conditions of the masonry wall of Chandakas Nikolaos Antoniadis, Michaela-Maria Karathanou-Nicholaïdi, Constantinos Loupasakis
10:00-10:15	Structural analysis of Rock slopes, using UAV & LiDAR, in the Archaeological site of Delphi, Greece Kyriaki Devlioti, Basile Christaras, Vassilis Marinos, Konstantinos Vouvalidis, Silvana Fais
10:15-10:30	Rehabilitation methods of Victorian Tunnels in the UK Cameron Atkinson, Dr. Chrysothemis Paraskevopoulou, Richard Miller
10:30-10:45	Sponsor Presentation - METRICA
10:45-11:00	Coffee Break - Exhibition & Posters
11:00-13:00	Environmental Engineering Geology- Engineering Geology for Engineering Works Chairs: Nikolaou N., Kaplanidis A.
11:00-11:30	Key Lecture: Neil Dixon Delivering sustainable infrastructure: Global challenges, geosynthetic solutions and counting carbon
11:30-11:45	Engineering Geological Aspects of Pipelines, an Australian Prospective Graeme Jardine
11:45-12:00	A comparative study of different biocementation implementation methods for embankment foundation soil M.U. Safdar, M. Mavroulidou, M.J. Gunn, D. Purchase, I. Payne, J. Garelick
12:00-12:15	The effectiveness of fibre reinforced soil for shallow slope failure stabilization Richard Seddon, Mike G Winter, Ian M Nettleton, Jan Marsden
12:15-12:30	Performance of different chemical soil stabilisers in the presence of sulphates Maria Mavroulidou, Chris Gray, Mike J. Gunn
12:30-12:45	The Kosova landslide in Bosnia and Herzegovina Mike G Winter, Sarah J Reeves, Senad Smajlović, Gurmel Ghataora, Dželila Šehić, Haris Zejnić





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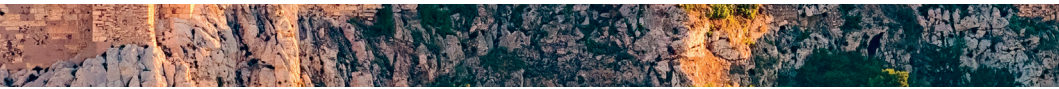
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ROOM A

12:45-13:00	Site evaluation for tunneling with an approach of engineering geomorphology in nepal Ranjan Kumar Dahal, Manita Timilsina, Shuichi Hasegawa
13:00-14:00	Lunch Break - Exhibition & Posters
14:00-16:00	Advances in Site Investigation for Engineering Geology Chairs: Voznesensky E., Tsifoutidis G.
14:00-14:15	Prediction of the hydrogeological conditions in the Snowy 2.0 deep tunnels by means of temperature measurements Antonio Dematteis, Manfred Thuring, Francisco Alvarado, Gabriele De Carli
14:15-14:30	Some empirical equations for estimating grout take amount: A case study from Turkey Ali Kayabasi, Candan Gokceoglu
14:30-14:45	Temperature and rock slope stability: a multi-sensor site monitoring network Ondřej Racek, Jan Blahůt, Filip Hartvich
14:45-15:00	Project, site and deliverables management systems integration for ground investigation projects Alkis Gkouvailas, Michael Blakely, Emmanouil Zervas, Tania Santiapillai, Maryse Buot
15:00-15:15	Geomechanical evaluation of an abandoned chalk mine using in-situ measurements Temenuga Georgieva, Fanny Descamps, Sara Vandycke, George Ajdanlijsky, Jean-Pierre Tshibangu
15:15-15:30	Layer interpolation with tomographic aid Juan Chavez-Olalla
15:30-15:45	Variability of penetration rates (PRs) during open-hole drilling for different geological formations in Doha, Qatar Alkis P. Gkouvailas, Dafni E. Sifnioti, Julian Ashley, Francesco Barbagli, Maryse Buot
15:45-16:00	Assessing the shrink swell potential of Highways England's geotechnical assets Jack Randall, Dr Christopher Power, James Codd
16:00-16:15	Coffee Break - Exhibition & Posters
16:15-18:00	Environmental Engineering Geology Chair: NganTillard D.
16:15-16:30	An IoT-enabled interactive platform for visualization and analysis of regional-scale groundwater system Chuen-Fa Ni, I-Hsien Lee, Yun-Chen Yu, Wei-Ci Li
16:30-16:45	Assessment of Human Exposure to Polycyclic Aromatic Hydrocarbons in Groundwater near Municipal Landfills Balint A.



PROGRAM

SATURDAY OCTOBER 9th 2021

ROOM A

16:45-17:00	Numerical assessment of groundwater flow and transport in fractured rocks: Benchmark cases for concepts of DFN, ECPM, and Hybrid approaches Yun-Chen Yu, I-Hsien Lee, Chuen-Fa Ni
17:00-17:15	Rock material reutilization from tunnel excavation with reference to long tunnel structures Voit Klaus, Erik Kuschel, Christian Zangerl
17:15-17:30	Decadal change in land use and land cover pattern and river dynamics in Indrawati River, Central Nepal Kumud Raj Kafle, Kevin Bajracharya, Simrik Bhandari, Benju Shrestha
17:30-17:45	The Behaviour of Sand Stabilized with Colloidal Silica in Triaxial Compression and Extension Eleni-Maria Pavlopoulou, Vassiliki Georgiannou, Filippos Chortis
18:00-19:00	Closing Ceremony





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ROOM B

09:00-10:45	Characterisation and Behaviour of Soils and Rocks Chairs: Vlachopoulos N., Christakis E.
09:00-9:30	Key Lecture: Reşat Ulusay Standardization and future trends in rock characterization and testing in geo-engineering
09:30-9:45	Sandstone Intact Rock Strength - A focus on the comparison between uniaxial and triaxial laboratory tests in tunnelling design Lorenzo Paolo Verzani, Giordano Russo
09:45-10:00	A visual and laboratory estimation of the Hoek-Brown constant m_i for two marbles Anastasios Tsikrikis, Trevor G. Carter, Vassilis Marinou
10:00-10:15	Combination of cementitious and chemical grouting in the transition zone of unlined and concrete-lined tunnel: a case from Upper Tamakoshi Hydroelectric Project, Nepal Sanjib Sapkota, Renos Christakis, Jharendra KC, Mahesh Raut
10:15-10:30	I.S.G.E.: An Integrated Spatial Geophysical & Geotechnical Evaluation tool based on fuzzy logic Christos Orfanos, Konstantinos Leontarakis, George Apostolopoulos, Ioannis E. Zevgolis
10:30-10:45	A laboratory study on the brittle-ductile transition of four calcitic rocks Anastasios Tsikrikis, Maria Tzilini, Theodosios Papaliangas, Vassilis Marinou
10:45-11:00	Coffee Break - Exhibition & Posters
11:00-13:00	Characterisation and Behaviour of Soils and Rocks Chairs: Oliveira R., Tsangaratos P.
11:00-11:30	Key Lecture: Eugene A. Voznesensky Characterization and Behaviour of Soils: Actual Objectives and Requirements
11:30-11:45	Implications for TBM performance based on rock mass observations for the Blue Lias Formation Sarah Sissins, Dr. Chrysothemis Paraskevopoulou
11:45-12:00	Investigation of tectonized limestones in western Lefkada Island with field and laboratory testing and back-analyses of co-seismic landslides Kallimogiannis V., Saroglou Ch., Palantzias G.
12:00-12:15	Effect of pore size on electro pulse drilling of rock Nawnit Kumar, Xiaoli Liu
12:15-12:30	Investigation of time-dependent stress relaxation behaviour in rock materials Chrysothemis Paraskevopoulou
12:30-12:45	The Quest for Rock Site Characterization for the Greek National Seismic Network Olga-Joan Ktenidou, Faidra Gkika, Christos Evangelidis



PROGRAM

SATURDAY OCTOBER 9th 2021

ROOM B

12:45-13:00	The effect of suction on differential weathering and stability of soft rock cliffs on the example of Zenta Bay cliff (Split, Croatia) Ana Raič, Nataša Štambuk Cvitanović, Goran Vlastelica
13:00-14:00	Lunch Break - Exhibition & Posters
14:00-16:00	Engineering Geology for the Society & Engineering Geology for Urban Environment Chairs: Stavropoulou M., Hartvich F.
14:00-14:30	Key Lecture: Helen Reeves Can Engineering geologist contribute to international agendas & fundamental societal challenges?
14:30-14:45	Landslide activity affected by sludge basin water: a 40-year history assessed by interdisciplinary research Filip Hartvich, Petr Tábořík, Jan Klimeš, Jan Blahůt, Ondřej Racek, Josef Stemberk, Jan Balek
14:45-15:00	Engineering geological mapping of Moscow megacity area: from geological maps to georisk maps Olga Eremina, Irina Kozliakova
15:00-15:15	Engineering geological evaluation for urban land use planning and engineering construction within a database environment, a case study for the city of Thessaloniki, Northern Greece Aliko Kokkala, Vassilis Marinos, Christaras Vasileios, Voudouris Konstantinos
15:15-15:30	From post-disaster landslides inventory to open landslides data Biljana Abolmasov, Miloš Marjanović, Uroš Đurić, Jelka Krušić
15:30-15:45	Investigation of the Kafiareas Mountain landslide, in Evia Island, Greece V. Perleros, A. Kalos, D. Georgiou, P. Marinos
15:45-16:00	Assessment of Earthquake Induced Liquefaction Risks in the Hills of The Rohingya Refugee Camp Area, Cox's Bazar, Bangladesh for Sustainable Development Hossain, ATMS., Dutta, T., Haque, M.E., Sayem, M.H., Imam, H., Khatun, M., Jafrin, S.J., Khan, P. A. & Hasan, M.
16:00-16:15	Coffee Break - Exhibition & Posters
16:15-18:00	Characterisation and Behaviour of Soils and Rocks & Aggregates and Construction Materials Chair: Gkouvailas A.
16:15-16:30	Predicting uniaxial compressive strength of evaporitic rocks from Abu Dhabi, United Arab Emirates-Phase I with unit weight values Hasan Arman, Osman Abdelghany, Ala Aldahan
16:30-16:45	A Discretized Clay Shell Model (DCSM) for evaluating the effective stress coefficient of clayey sandstone permeability Pin Lun Tai, Jia Jyun Dong





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PROGRAM

SATURDAY OCTOBER 9th 2021

ROOM B

16:45-17:00	The influence of subjective factors on the accuracy of graphical constructions to interpret the preconsolidation pressure in IL-tests V.V. Matveev, V.V. Shanina
17:00-17:15	Geoengineering characterization of Lyulyakata limestone quarry, NE Bulgaria Temenuga Georgieva, George Ajdanlijsky, Fanny Descamps, Jean-Pierre Tshibangu
17:15-17:30	A Soil Improvement Methodology for a Shallow Tunnel Excavated in Extremely Weak Clay: A case study from Turkey Arif Emre Kaan Gündoğdu, Aslı Can, Kemal Acar, Candan Gökçeoğlu
17:30-17:45	Importance of Engineering Geological Studies in Resource and Reserve Reporting for Aggregates Atiye Tuğrul, Murat Yilmaz





PROGRAM

SATURDAY OCTOBER 9th 2021

ROOM C (VIRTUAL ROOM)

09:00-10:45	Engineering Geology for Engineering Works
09:00-9:15	Prehistoric Rock Slides In Dagestan (Caucasus, Russia): Justification Of Their Seismic Triggering By Slopes' Stability Back Analysis Alexander Strom, Igor Fomenko, Vladislav Tarabukin, Oleg Zerkal
09:15-09:30	Bayesian probabilistic back-analysis and run-out prediction of landslides: a case study in the Heifangtai, Gansu Province, China Peng Zeng, Xiaoping Sun, Tianbin Li, Rafael Jimenez
09:30-09:45	The Effect of the Horizontal-Vertical Stress Ratio on the Deformations at the T3 Tunnel (Çorum, Turkey) Entrance Section Anil Atakan, Murat Yilmaz, Atiye Tuğrul, Bora Arslan, Cemal Samur
09:45-10:00	Geotechnical Evaluation of Acipayam Basin (Denizli-Turkey) by Using A Geological and Geotechnical Information System (GEO-GIS) H. Kumsar, T. Sarayköylü, Y. Say
10:00-10:15	Development of a low cost geosensor network for detection and monitoring of rainfall induced landslides in soil Dr. John Singer, Prof. Dr. Kurosç Thuro, Moritz Gamperl, Tamara Breuninger, Dr. Bettina Menschik
10:15-10:30	Slope Stability Hazards Evaluation of Dammam Formation West of Karbala Governorate-Middle of Iraq: Case study Jaffar H.A. Al-Zubaydi
10:30-10:45	The effectiveness of willow poles for shallow slope failure stabilisation Mike G Winter, Ian M Nettleton, Richard Seddon, Jan Marsden
10:45-11:00	Coffee Break - Exhibition & Posters
11:00-13:00	Analysis and Mitigation of Geohazards
11:00-11:15	Study on mechanism of loess landslide induced by train vibration combined with water Yuanjun Xu, Jiading Wang, Tianfeng Gu
11:15-11:30	Results of comprehensive monitoring activities on Umka landslide, Belgrade, Serbia Biljana Abolmasov, Uroš Đurić
11:30-11:45	Geological Control on Large-scale Landslide in the Central Nepal Himalaya Bikash Phuyal, Prem Bahadur Thapa
11:45-12:00	Forensic examination of critical special geotechnical measures Mike G. Winter, Ian M. Nettleton, Michelle Duffy-Turner, Gillian Butler, Philip Liew
12:00-12:15	The effectiveness of Blastability Quality System on rock slopes. A case study in a landslide restoration Maria Chatziangelou, Costas Anagnostopoulos





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PROGRAM

SATURDAY OCTOBER 9th 2021

ROOM C (VIRTUAL ROOM)

12:15-12:30	Stochastic approach for karst risk assessment of a motorway project Fabrizio Peruzzo, Walter Giulietto, Mirko Vendramini, Attilio Eusebio
12:30-12:45	Prediction of Karst susceptibility combining GIS based modeling and Remote Sensing data analysis Mirko Vendramini, Walter Giulietto, Fabrizio Peruzzo, Attilio Eusebio
12:45-13:00	Roadmap to an early warning system in a large landslide near Tbilisi, Georgia Klaus Keilig, Markus Bauer, Peter Neumann, Kuroschi Thuro
13:00-14:00	Lunch Break - Exhibition & Posters
14:00-16:00	Analysis and Mitigation of Geohazards
14:00-14:30	Key Lecture: Jean Hutchinson The importance of ground truthing Engineering Geology innovations for Rock Slope stability management
14:30-14:45	Engineering Geological Appreciation and Monitoring of Rockfall's Dynamic, Based on Multi-Temporal UAV and LiDaR Surveys in "Apothikes" Area, Santorini Prefecture, Greece Ioakeim Konstantinidis, Efstratios Karantanellis, Vassileios Marinos, George Papathanassiou
14:45-15:00	A landslide in bentonitic clays in Paphos, Cyprus Michael Bardanis, Evagelia Ioannou
15:00-15:15	Probabilistic rainfall thresholds for debris flow warning in Scotland Mike G. Winter, Flora Ognissanto, Luke A. Martin
15:15-15:30	Long-term rockslope monitoring and rockfall prediction Miloš Marjanović, Biljana Abolmasov, Marko Pejić, Jelka Krušić
15:30-15:45	Fault influence zones assessment and its accounting in site investigations Olga Barykina, Oleg Zerkal, Ernest Kalinin
15:45-16:00	2D and 3D dynamic numerical modelling of seismically induced rock slope failure Anne-Sophie Mreyen, Emilie Lemaire, Hans-Balder Havenith
16:00-16:15	Coffee Break - Exhibition & Posters



Analysis and Mitigation of Geo-hazards

Soil Liquefaction evidences during the November 26th 2019 Durres Earthquake, Albania

Shkëlqim Daja, Besnik Ago, Çerçis Durmishi, Shaqir Nazaj, Arjol Lule, Neritan Shkodrani

Detecting early landslide phenomena after wildfires through UAV-photogrammetric mapping

Aggelos Pallikarakis, Georgios Deligiannakis, Ioannis Papanikolaou

Comparing high accuracy tLiDAR and UAV-derived point clouds for change detection in two semi-mountainous Mediterranean catchments in Central Evia island, Greece

Simoni Alexiou, Georgios Deligiannakis, Aggelos Pallikarakis, Ioannis Papanikolaou, Emmanouil Psomiadis, Klaus Reicherter

Projecting landslide susceptibility under Climate Change. The case of Eastern Pelion, Greece

Aikaterini-Alexandra Chrysafi, Ioanna Ilia, Paraskevas Tsangaratos

The tsunami component of the Hellenic Plate Observing System (HELPOS) research infrastructure

Marinos Charalampakis, Nikos Kalligeris, George Drakatos, Akis Tselentis

Tsunami risk assessment in the framework of the GEORISK project

Marinos Charalampakis, Akis Tselentis, George Drakatos

Earthquake-generated tsunami hazard assessment for the Ionian Islands

Marinos Charalampakis, George Drakatos, Christos Evangelidis

Slope protection respectful of natural resources and landscape thanks to earth retaining system

Gruslin Steve, Nola Domenico

Locating-allocating emergency response services facilities considering landslide susceptibility assessments

Anastasios Balampanis, Paraskevas Tsangaratos, Constantinos Loupasakis, Constantinos Athanassas

Investigation of land subsidence due to the overexploitation of the aquifer at the Amyntaio basin, Greece

Ploutarchos Tzampoglou, Constantinos Loupasakis

Reducing uncertainties of landslide susceptibility assessment based on the optimized frequency ratio method: a case study

Hengxing Lan, Yixing Zhang, Langping Li





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Assessing land subsidence phenomena with SAR Interferometry techniques and hydrogeological data in the Thriassio plain

Agavni Kaitantzian, Constantinos Loupasakis, Issak Parcharidis

Inversion Method of Landslide Permeability Coefficient Based on Displacement and Groundwater Level Monitoring Data

Lei LIU, Ningtao WANG, Xiaolin FU, Yong XU, Zhipeng LIAN, Jianmin TAN

Using systemic hazard concept in order to improve the quality of landslide hazard maps

Daniel Mihailescu, Emilia Milutinovici

Engineering geological study of rockfall phenomena and instability analysis in Proussos Dipotama site, Central Greece, using terrestrial LIDAR and UAV platforms

Maria Dandika, Vassilis Marinos, Efstratios Karantanellis, George Papathanassiou, Thomas Makedon

Characterisation and Behaviour of Soils and Rocks

Deformation stages of schists under uniaxial compression

Dimitrios Kotsanis, Pavlos Nomikos, Dimitrios Rozos

Evaluation of crack initiation stress of Volakas marble specimens in uniaxial compression

Dimitrios Kotsanis, George Papantonopoulos, Pavlos Nomikos

Comparison of roughness indices on chalk and sandstone fractures

Marie-Laure Wattier, Sara Vandycke, Françoise Bergerat, Paul Wertz, Samir Mohammad, Jean-Pierre Tshibangu

Liquefaction estimates at different earthquake magnitudes in the coastal area of Kato Achaia, Greece with the use of CPT

V. Boumpoulis, O. Kontopidis, N. Depountis, N. Sabatakakis

Classification of Tunnel Surrounding Rock Mass under High In Situ Stress

Ning LIANG, Faquan WU

FS change of cut-slope reinforced with anchors due to decrease of anchor tensile force

Jahe Jung, Oil Kwon, Jong -Hyun Lee





e-POSTERS

Case study of soil regression model for landslide-triggering factors in gneiss and granite areas of South Korea

Man-Il Kim, Kyeong-Su Kim, Namgyn Kim, Jawhwan Kwak, Eui-Soon Hwang,

The effect of schistosity on the uniaxial compressive strength of metamorphic rocks of northern Greece

Athanasia X. Liouka, Thomas Makedon, Anastasios Tsikrikis

Sensitive soils - Characteristic Values for geotechnical parameters and their variability

Emilia Milutinovici, Daniel Mihăilescu

Internal erosion study of wide grading loose soil based on microscopic pore distribution

Yanzhou Yin, Yifei Cui, Chaoxu Guo, Yao Jiang

Engineering Geology for Engineering Works

Assessment of biogrouting for fractured rocks with various treatment methods

Chuangzhou Wu, Bo-An Jang, Hyun-Sic Jang

Forensic examination of critical special geotechnical measures

Mike G Winter, Ian M Nettleton, Michelle Duffy-Turner, Gillian Butler, Philip Liew

Assessment of slope stability by monitoring change of tensile force of anchor

Oil Kwon, Jonghyun Lee, Byungsuk Park, Jahe Jung

Crack-able combined finite-discrete element algorithm and its application in seabed ore body mining

Fengshan Ma, Gang Liu¹, Jie Guo, Rong Lu

Engineering geological line selection method for transmission lines in deep-incised valley

Yi Peng, QiHua Zhao, SheQin Peng

Dynamic and Probabilistic Multi-class Prediction of Tunnel Squeezing Intensity

Tianbin Li, Yu Chen, Peng Zeng

Rock mass excavatability assessment in tunnelling based on GSI. The case of Tempi tunnels in Greece

Athina Tsirogianni, Haris Saroglou

Compactability and permeability of clay-gravel composites: a laboratory evaluation

Yang Lu, Sihong Liu, Yonggan Zhang





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Engineering Geological Assessment of the Louziki dam site suitability, Chalkidiki, Greece

Antriana Gkorani, Thomas Makedon, Vassilis Marinos, Vasileios Charitaras

Engineering Geology for the Society

Socio-economic impacts of landslides in Pelion district, Greece

Garyfalia Konstantopoulou

Analytical Hierarchical Procedure (AHP) applications in engineering geology

Sonja Đokanović

Engineering Geology for Urban Environment

Methodology for mapping geological risks.

Y. Mamaev, S. Kozlovsky, P. Stolnikova

The dynamic soil-construction interaction in seismic response of the Immersed Tunnel

Vasiliki Paraskevi Manti

Environmental Engineering Geology

Dating of fault movements and earthquake recurrence near hard infrastructure

Kanavou K.V., Athanassas D.C., Mouslopoulou V., Aslanoglou X., Stamoulis K.

The secondary heavy metal pollution of rivers in the coal mine region

Nikolay Maksimovich, Olga Berezina, Artem Demenev, Vadim Khmurchik, Olga Meshcheryakova, Alexey Sedinin

Correlation analysis between the outburst of the Diexi ancient dammed lake in the upper reaches of the Minjiang River and the change in ancient culture on the Chengdu Plain

WANG Xiao-qun, HUANG Xin, SHEN Man, ZHOU Zhou, WEI Jie

Estimation of the sediment yield in earth-fill dams with the use of the Revised Universal Soil Loss Equation

Maria Michalopoulou, Nikolaos Depountis, Katerina Kavoura, Nikolaos Sabatakakis





e-POSTERS

Determining of the available soil water range for plant growing and a wind driving irrigation technique of down-membrane water dropping

Jiang Ruijun, Li Tonglu

An experimental study to improve permeability and cleaning efficiency of oil contaminated soil by plasma blasting

Bo-An Jang, Hyun-Sic Jang, Ahhyeon Kim, Injoon Baek

Marine Engineering Geology

Investigation to soil-pile interaction in open-ended piles installed in soft soils

M. Sc. Moritz Anton Loreth, Univ.-Prof. Dr.-Ing. habil. Sascha Henke

Early warning system of the landslides in the Three Gorges Reservoir area, based on dynamic risk assessment

Ye Li, Kunlong Yin, Deying Li, Yang Wang, Lixia Chen

Recent Advances in Geomatics and Remote Sensing for use in Engineering Geology

Investigation of the swelling/shrinkage phenomenon with the use of Earth Observation techniques in Nicosia, Cyprus

Ploutarchos Tzampoglou, Dimitrios Loukidis, Niki Koulermou

Engineering geological appreciation on landslide and rockfall phenomena and monitoring using LiDAR and UAV platforms in a case site at Perivoli, Greece

Apostolos Azas, Vasilis Marinos, Efstratios Karantanellis, George Papathanassiou

Landslide Change Detection Based on Multi-Temporal Digital Elevation Models of Ropoto, Central Greece

A. Vassou, V. Marinos, E. Karantanellis, S. Valkaniotis, G. Papathanasiou

Lithological discrimination using aster images in the coastal mountain chain of the Imapa sector, Santiago, Chile

Vidal V., Raúl Arriagada S., Hernán., Péndola R., Daniel. , Arotaipe Q., Rosmery

Landslide susceptibility assessment under seismic motion surveys: a case in Melissoyrgoi, Epirus

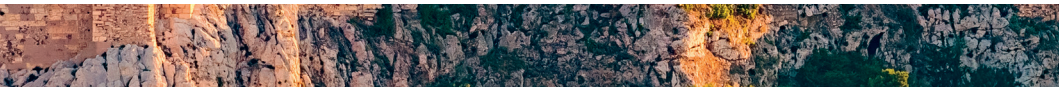
P. Sotiriou, V. Marinos, E. Karantanellis, G. Papathanasiou

Automated 3D rock discontinuity surface mapping & characterization: Not a plane segmentation problem 230

Ioannis Farmakis, Efstratios Karantanellis, Nicholas Vlachopoulos, Vassilis Marinos







GENERAL INFORMATION

Venue

The Congress will be held in Athens Greece at Divani Caravel Hotel from the 6th to 10th of October 2021

Language

English is the official language of the Congress.

Registration Fees

Registration Natural Presence:	300€
Virtual Registration authors – presenters:	200€
Virtual Registration with no publication:	150€
Students:	100€
Virtual Registration Students:	50€

Photography and Recording Policy

The Congress Organizers remind you that it is forbidden to install or use equipment in a private place for observing, photographing, recording, amplifying or broadcasting sounds or events without the consent of the person or persons entitled to privacy therein. If you would like a copy of the presenter's slides, please feel free to contact the presenter directly. Therefore, participants are asked to be respectful of their colleagues by turning off all cell phones, PDA devices before entering the Congress halls. Cameras and all other recording devices are strictly prohibited in all session halls, in the Exhibition Area, and throughout the Poster Presentation Area.

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