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VI INTERNATIONAL CONFERENCE ON GIS and Geoinformation Zoning for Disaster Mitigation (GIZ)

August 28-30, 2025, Rahat Palace Hotel, Almaty, Kazakhstan

PROGRAM BOOK

KGS

SIMSG ISSMGE

Japanese Geotechnical Society

GEOTECHNICAL CENTER
SAINT PETERSBURG, RUSSIA

ISSMGE TC305

ATC 10
ATC 19

ALMATY TOURISM BUREAU

EURASIAN NATIONAL UNIVERSITY

KGS-ASTANA

KGS-ASTANA LLP

kgs-astana.kz kgs-astana@mail.ru

CONTENTS

WELCOME MESSAGE

Dear Colleagues and Friends,

The Asian Technical Committee (ATC10) of ISSMGE, in collaboration with TC305 and the Kazakhstan Geotechnical Society, is pleased to announce the 6th International Conference on GIS and Geoinformation Zoning for Disaster Mitigation (GIZ), to be held in Almaty, Kazakhstan.

This event, which has been successfully hosted five times since its establishment, provides a platform for professionals, researchers, engineers, and public officials to share cutting-edge research and technologies related to geo-informatics, hazard zoning, geotechnics, earthquake engineering, and disaster prevention.

In the wake of the challenges posed by the COVID-19 pandemic, we are excited to return to an in-person format and are pleased to expand the scope of ATC10 to include emerging technologies such as Building Information Modeling (BIM), Digital Twin, and Machine Learning. These advancements promise to enhance our research and practices in disaster mitigation.

This conference will also be co-organized by the Asian Regional Technical Committee 19 (ATC19) (Preservation of Historic Sites) of ISSMGE. Following the success of the previous symposium held at the Nara National Institute of Cultural Properties in Japan in 2023, this event aims to further promote the preservation of historic sites by fostering cooperation, supporting interdisciplinary studies, and addressing the impact of natural disasters on cultural heritage from a geotechnical perspective.

We look forward to welcoming participants to Almaty for an inspiring and collaborative event that will contribute to innovation and progress in these crucial fields.

Sincerely yours,
Professor Askar Zhussupbekov,
Chairman, Chair TC305 of ISSMGE, Organizing Committee of GIZ 2025
President of Kazakhstan Geotechnical Society

WELCOME MESSAGE

Dear Colleagues and Friends,

On behalf of ATC10 for Urban informatics in ISSMGE and in Japan Geotechnical Society (JGS), I would like to address the welcome message for all participants to GIZ2025. Our commission has mainly focused the way for considering the usage of geotechnical information in urban area and currently involved 3 main topics for studying, BIM &Digital Twin and 3D modelling, Machine learning and Ground water modelling in recent years

As almost every 4 years, our commission has organized international conference on GIS and Geoinformation Zoning for Disaster Mitigation (GIZ). This conference, 6th International Conference on GIS and Geoinformation Zoning for Disaster Mitigation (GIZ2025）is after 5th GIZ at Auckland, NZ in 2018. We appreciate to Kazakhstan Geotechnical Society, JGS, ATC19 and TC305 for the preparation and support for GIZ2025.

We aim to develop the commission activity to new stage through the presentations and discussions in GIZ2025 at historical city, Almaty, along ancient Silk Road and on foot of the Tian Shan Mountains.

We would like to hope to build new and international relationship on the urban informatics and others among the participants at the conference in excellent environment of Almaty.

Sincerely yours,
Associate Professor Takafumi Seiki,
Chair ATC10 of ISSMGE

Takafumi Seiki

WELCOME MESSAGE

Dear Colleagues and Friends,

I am delighted to say that Asian Regional Technical Committee 19 (ATC19) is joining the 6th International Conference on GIS and Geoinformation Zoning for Disaster Mitigation (GIZ) as a co-organiser. I hope that all participants enjoy inspiring discussions in this conference.

ATC19 was launched in 2010, named after TC19 of ISSMGE, which has changed its name to TC301. The first chair was Dr. Yoshinori Iwasaki. We are an interdisciplinary team for the preservation of historic sites in Asia. We aim to: 1) exchange techniques for investigations and preservation, 2) encourage interdisciplinary collaborations, and 3) contribute to the investigation and restoration of damaged historic sites from a geotechnical engineering perspective. We deal with a wide range of topics related to the preservation of historic earth/masonry structures, including slope stability, moisture transfer, seismic behaviour, and physicochemical degradation.

In 2023, ATC19 got a new role leading the restoration of historic sites damaged by natural disasters in the Japanese Geotechnical Society. We are now working more actively than ever to assist the restoration of geotechnical structures in castles, shrines, and burial mounds damaged by the 2024 Noto Peninsula Earthquake. This practical project motivates us to study further.

The issues that historic sites are facing are different from site to site, and solutions have not been established; therefore, sharing experience and exchanging thoughts are important. This international conference will be an opportunity for face-to-face intensive discussions and finding your new collaborators.

Sincerely yours,
Dr. Mai Sawada,
Chair ATC19 of ISSMGE

CONFERENCE ADVISORY BOARDS & COMMITTEES

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ACKNOWLEDGEMENT

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Japanese Geotechnical Society

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GEOTECHNICAL CENTER
SAINT PETERSBURG, RUSSIA

ISSMGE TC305
Technical Committee on Geotechnical Infrastructure for Megacities and New Capitals

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LUKOS GROUP

KARAGANDA
SURVEY INSTITUTE

INVITED SPEAKERS

Keynote I

Authenticity of Foundation of Heritage Structures and Special Character of "Angkor Sand" for the Central Tower of Bayon, Angkor Thom, Cambodia

Dr. Yoshinori IWASAKI

Iwasaki Geo-Engineering Office (Japan)

Keynote II

Utilization of Geoinformatic database and its application to assessment of settlement of the reclaimed marine foundations due to the construction of Kansai International Airport

Prof. Mamoru MIMURA

Emeritus Professor of Kyoto University, Principal Director | Geo-Research Institute (Japan)

Keynote III

Geological application of computerized geotechnical borehole database

Subsurface geology and sedimental environment in Kansai Area

Dr. Naoko KITADA

Director | Geo-Research Institute (Japan)

Keynote IV

Risk assessment of rainfall-induced landslides considering regional characteristics with machine learning

Prof. Tatsuya ISHIKAWA

Hokkaido University (Japan)

Keynote V

Development and application of geological and geotechnical information databases in Japan and the ATC10's challenge on uncertainties

Mrs. Rie WADA

Manager, Geospatial Business Department | Kiso-Jiban Consultants co., Ltd (Japan)

Invited I

Spatial and Temporal Analysis of Landslide Susceptibility– for the Case in Taiwan

Prof. Keh-Jian SHOU, SY. SUNG and PL.CHEN

National Chung-Hsing University (Taiwan)

Invited II

Assessment of Soil Contamination in Incheon Harbor Area
Prof. Eun Chul SHIN, Dabeen KIM, Jeong Ku KANG
Incheon National University (South Korea)

Invited III

Design of the First Metro Line in Almaty Crossing Tectonic Fault Zones
N.S. UTEGENOV, A.A. URAZBAYEVA
Chief Engineer of LLP "Metroproekt" (Kazakhstan)

Invited IV

Engineering Solutions for Disaster Mitigation and controlled demolition techniques for buildings - Case Studies
Dr. Anil JOSEPH, Ashitha JOSEPH and Dhanya J.S.
Geostructurals Pvt Ltd (India)

Special speaker I

Geobrugg experience in changing risk zones to no-risk zones by means of natural hazard protection measures. Experience in Switzerland and Kazakhstan
Ph.D. Alexander BARINOV
PhD Geography, Member of Debris Flow Association, Member of Avalanche Association, Regional partner of Geobrugg AG Switzerland

Special speaker II

Soil Mixing Around the World – Application and Solution Examples
Mr. Franz-Werner GERRESSEN
BAUER Maschinen GmbH, (Germany)

Special speaker III

Construction of vertical cut-off walls for reducing exposure to floods
Mr. Waldemar KWIATKOWSKI
Construction Director, Geofocus LLP (Poland)

Thematic I

Statistical and regression analysis of sand and clay stiffness in triaxial tests

Dr. Rafael SHARAFUTDINOV

Scientific Secretary of RSSMGFE, Director | Gersevanov Research Institute of Bases and Underground Structures (Russia)

Thematic II

Hazardous Geological Processes and Their Impact on the Condition of Architectural Monuments

Prof. Fayzulla Abdullaevich IKRAMOV

Professor | Samarkand State University named after Sharof Rashidovich Rashidov (Uzbekistan)

Thematic III

Geoinformational zoning in addressing hazards from natural disasters

Dr. Daulet SARSENBAYEV

Director | National Scientific Center for Seismological Observations and Research (Kazakhstan)

Bright Spark I

Environmental assessment of pyrolyzed industrial mixed plastic waste

Dr. Balganym DOSMUKHAMBETOVA, Assem ASKARBAY

Eurasian National University (Kazakhstan)

Bright Spark II

Stabilization and Ecological Restoration of Tailings: Addressing Key Challenges and Future Opportunities

Ph.D. Bharat RATTAN, Ankit GARG, Sreedeep S, Chen RUI

Postdoctoral Fellow | Harbin Institute of Technology (China)

Bright Spark III

Brittle Failure Mechanism and Evaluation Model of Reef Limestone under Multi-Factor Regulation of Mineral-Pore-Interface Interactions

Mr. Yang LIU, Dong-sheng XU, Askar ZHUSSUPBEKOV

Ph.D candidate in Geotechnical Engineering | Wuhan University of Technology (China)

GENERAL INFORMATION

Conference Info

Theme

GIS and Geoinformation Zoning for Disaster Mitigation (GIZ)

Date

28-30 August 2025

Coffee Break

Venue: Poster Session Area, Ground Floor

Lunch

Venue: Zhuambyl Restaurant, 1st Floor (ticket required)

Welcome Reception

Venue: Grand Hall, Medal ceremony

Gala Dinner

Venue: Zhuambyl Restaurant Room (with terrace), 1st Floor (ticket required)

Official Language

The official language of the GIZ2025 conference is English.

Internet Access

Free WI-FI is available throughout the conference period in conference venue, Hotel Rahat Palace.

Lost and Found

The lost and found items should be returned/claimed at the registration counter.

Certificate of Attendance

Certificate of the attendance will be provided to each registered participant during the check-in process.

Registration & Information Counter

Venue: The lobby of Hotel Rahat Palace

Service Hours: 08:00-17:00 Thursday, August 28.
08:00-17:00 Friday, August 29.

Getting to the Venue (Rahat Palace Hotel)

How to Reach the **Venue**

To conveniently reach the final destination (hotel, venue, or any point in the city), we recommend using the **Yandex Go or UBER** mobile app – a trusted local service for ordering taxis and deliveries.

You can easily book a ride without language barriers, track your driver in real time, and choose from various service levels.

For your convenience, a **QR code for downloading Yandex Go the app** is provided below:

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Badge Information

The badge will be provided to each registered attendee together with all the necessary coupons onsite upon checking in.

All participants are required to wear the badge all the time during the conference period for recognition.

VIP / INVITED SPEAKER	• Participation in the Welcome Reception and Closing Ceremony. • Conference kits (Conference Bag, Badge, and Program Book Included) • Free lunches and coffee-breaks. • Admission to all scientific sessions and industrial exhibition.
DELEGATE	• Participation in the Welcome Reception and Closing Ceremony. • Conference kits (Conference Bag, Badge, Program Book Included) • Free lunches and coffee-breaks. • Admission to all scientific sessions and industrial exhibition.
EXHIBITION	• Participation in the Welcome Reception and Closing Ceremony. • 1 Booth for 1 Conference kits (Conference Bag, Badge, Program Book Included) • Admission to industrial exhibition. • Free lunches and coffee-breaks.
STUDENT	• Participation in the Welcome Reception and Closing Ceremony. • Conference kits (Conference Bag, Badge, Program Book Included) • Admission to all scientific sessions and industrial exhibition. • Free lunches and coffee-breaks.
STAFF	• Please reach the staff if any assistance needed. * Security personnel will allow only persons with badges to enter the meeting rooms.
ACCOMPANYING PERSON	• Participation in the Welcome Reception and Closing Ceremony. • Admission to industrial exhibition. • Free coffee-breaks.

* Badges are not transferable

PROGRAM AT A GLANCE

Time/Date	28 Aug. Thursday		
Venue	GRANDHALL		
9:00-9:30	Opening Ceremony		
9:30-09:55	Keynote Lecture I		
09:55-10:20	Keynote Lecture II		
10:20-10:45	Keynote Lecture III		
10:45-11:20	Coffee Break		
11:20-11:45	Keynote Lecture IV		
11:45-12:10	Keynote Lecture V		
12:10-12:35	Invited Lecture I		
12:35-12:50	Special speaker I		
12:50-13:05	Special speaker II		
13:20-14:20	Lunch		
Venue	Hall 1	Hall 2	Hall 3
14:20-14:50	ATC-10 Urban Geo-informatics	TC-305 Geotechnical Infrastructure for Megacities and New Capitals	TC-305 Geotechnical Infrastructure for Megacities and New Capitals
14:50-15:20			
15:20-15:50			
15:50-16:20	Coffee Break		
16:20-16:50	ATC-10 Urban Geo-informatics	TC-305 Geotechnical Infrastructure for Megacities and New Capitals	TC-305 Geotechnical Infrastructure for Megacities and New Capitals
16:60-17:20			
17:20-17:50			MOU between IGS and KGS
18:00-19:30	Welcome Reception		
Registration	8:00-17:00		
Poster session	10:45-11:20; 16:15-16:45		
Exhibition	9:00-18:00		

Time/Date	29 Aug. Friday		
Venue	Hall 1	Hall 2	Hall 3
9:00-9:30	ATC-10 Urban Geo-informatics	ATC-19 Geo-engineering for conservation of heritage monuments and historical sites	TC-305 Geotechnical Infrastructure for Megacities and New Capitals
9:30-10:00			
10:00-10:30			
10:30-11:00	Coffee Break		
11:00-11:30	ATC-10 & ATC-19	TC-305 Geotechnical Infrastructure for Megacities and New Capitals	TC-305 Geotechnical Infrastructure for Megacities and New Capitals
11:30-12:00			
12:00-12:30			
12:30-13:00	Poster Session		
13:00-14:00	Lunch		
Venue	GRANDHALL		
14:00-14:15	Special speaker III		
14:15-14:35	Invited Lecture II		
14:35-14:55	Invited Lecture III		
14:55-15:15	Invited Lecture IV		
15:15-15:30	Thematic Lecture I		
15:30-15:45	Thematic Lecture II		
15:45-16:00	Thematic Lecture III		
16:00-16:30	Coffee Break		
16:30-16:50	Bright spark Lecture I		
16:50-17:10	Bright spark Lecture II		
17:10-17:30	Bright spark Lecture III		
17:30-18:30	Closing ceremony		
19:00-21:30	GALA DINNER (TICKET REQUIRED)		
Registration	8:00-17:00		
Poster session	10:30-11:00; 12:30-13:00; 16:00-16:30		
Exhibition	9:00-18:30		

DAILY PROGRAM

Thrusday, 28 August 2025		
9:00-9:30	Opening ceremony	GrandHall
9:30-09:55	Keynote lecture I	GrandHall
Chair: Prof. Keh-Jian Shou		
Authenticity of Foundation of Heritage Structures and Special Character of “Angkor Sand” for the Central Tower of Bayon, Angkor Thom, Cambodia *Dr. Yoshinori Iwasaki* *Iwasaki Geo-Engineering Office (Japan)*		
09:55-10:20	Keynote lecture II	GrandHall
Chair: Prof. Eun Chul Shin		
Utilization of Geoinformatic database and its application to assessment of settlement of the reclaimed marine foundations due to the construction of Kansai International Airport *Prof. Mamoru Mimura* *Emeritus Professor of Kyoto University, Principal Director |Geo-Research Institute (Japan)*		
10:20-10:45	Keynote lecture III	GrandHall
Chair: Dr. *Yoshinori Iwasaki*		
Geological application of computerized geotechnical borehole database Subsurface geology and sedimental environment in Kansai Area *Dr. Naoko Kitada* *Geo-Research Institute (Japan)*		
10:45-11:20	Coffee Break	
11:20-11:45	Keynote lecture IV	GrandHall
Chair: Prof. Bagdad Teltayev		
Risk assessment of rainfall-induced landslides considering regional characteristics with machine learning *Prof. Tatsuya Ishikawa, Ren Ono, Tomoki Ueno, Kiyonobu Kasama* *Hokkaido University (Japan)*		
11:45-12:10	Keynote lecture V	GrandHall
Chair: Dr. Rafael Sharafutdinov		
Development and application of geological and geotechnical information databases in Japan and the ATC10's challenge on uncertainties *Mrs. Rie Wada* *Kiso-Jiban Consultants Co., Ltd. (Japan)*		

12:10-12:35	Invited lecture I	GrandHall
Chair: Prof. Jong-Sub Lee		
Spatial and Temporal Analysis of Landslide Susceptibility– for the Case in Taiwan *Prof. Keh-Jian Shou* *National Chung-Hsing University (Taiwan)*		
12:35-12:50	Special speaker I	GrandHall
Chair: Dr. Zhanbolat Shakhmov		
Geobrugg experience in changing risk zones to no-risk zones by means of natural hazard protection measures. Experience in Switzerland and Kazakhstan *PhD. Alexander Barinov* *PhD Geography, Member of Debris Flow Association, Member of Avalanche Association, Regional partner of Geobrugg AG Switzerland*		
12:50-13:05	Special speaker II	GrandHall
Chair: Dr. Balganym Dosmukhambetova		
Soil Mixing Around the World – Application and Solution Examples *Mr. Franz-Werner Gerressen* *BAUER Maschinen GmbH, (Germany)*		
13:20-14:20	Lunch	

14:20-15:50	AsRTC10 «Urban Geo-informatics»	Hall 1
Chairs: Mrs. Rie Wada Mr. Tomohiro Yasuda		
Principles of creating an effective territorial planning model in complex engineering-geological conditions *Marinichev M. B., Polishchuk A.I., Vadachkoria O. A., Bushueva V. O.* *Department "Bases and Foundations", Kuban State Agrarian University named after I. T. Trubilin (Russia)* Changes in land reclamation seen through borehole data *Naoko KITADA, Mamoru MIMURA and Naoto INOUE* *Geo-Research Institute (Japan)* Application of the Engineering Geological Database of Taiwan to Develop Vs Prediction Models *Chi-Chin Tsai and Louis Ge* *National Taiwan University (Taiwan)* *Chung Hsing University (Taiwan)*		

Creation of the representative ground model utilizing Geo-informatic database and its application to deformation analysis due to reclamation
Mamoru MIMURA, Kenji HAYASGI, Naoko KITADA and Hiroko ITO
Geo-Research Institute (Japan)

Testing GIS techniques for the determination of soil intermediate properties
Indira S. Makasheva, Yelbek B. Utepov, Assel T. Mukhamejanova and Sabit A. Karaulov
Eurasian National University (Kazakhstan)

Innovative approaches to system design considering the mutual influence of urban environment
Silicheva Catherine Dmitrievna, Hüsnü Korhan Ozalp, Demin Nikita Vladimirovich
ELBA ENGINEERING LLC (Russia)

Geotechnical investigations in earthquake-damaged burial mounds toward restoration
Mai Sawada, Tomoya Ikeuchi and Tamotsu Fujita
Institute of Science Tokyo (Japan)

14:20-15:50	TC-305 Geotechnical Infrastructure for Megacities and New Capitals	Hall 2

Chairs*:* Dr. Divya Priya
PhD. Abdurakhim Abdullaev

Simulation of the resistance of a deep-sea soil base by moving loads
Andrey A. Ananyev
Saint Petersburg State University of Architecture and Civil Engineering; (Russia)

Mechanical properties of soil during scenario earthquakes
Mirsayapov Ilizar T. and Koroleva Irina V.
Kazan State University of Architecture and Engineering (Russia)

Assessment of the stability of bulk soils under dynamic loads caused by seismic effects predicted for the conditions of the construction site of a nuclear power facility
E.S. Sobolev, Ya.A. Bogdanov, A.V. Manukyan
Moscow State University of Civil Engineering (Russia)

Efficacy of fly ash-based water-absorbing polymers in improving unsaturated soil properties and promoting vegetation growth under drying conditions
Bharat Rattan, Ankit Garg, Sreedeep S, Chen Rui, Haowen Guo, Askar Zhussupbekov
Department of Health and Environmental Sciences (HES), Xi'an Jiaotong-Liverpool University, Suzhou (China),
Xi'an Jiaotong-Liverpool University (China),
Harbin Institute of Technology (China),
L.N. Gumilyov Eurasian National University (Kazakhstan)

Influence of deep foundations on high-rise buildings during a seismic impact
Cesar Alfonso Alanoca Chambi
SOCHIGE, SIMSG, ISSMGE (Bolivia)

Experimental study of the physico-mechanical properties of bedrock soils
G.O. Anzhelo, L.YU. Ermoshina, V.A. Lunin
MSUCE (Russia)

Experimental investigation of side resistance in bored piles embedded in rock
Rafael Sharafutdinov, Dmitrii Botanin
Gersevanov Research Institute of Bases and Underground Structures (Russia)

14:20-15:50	TC-305 Geotechnical Infrastructure for Megacities and New Capitals	Hall 3

Chair: Prof. Lois Ge
PhD. Tatiana Tronda

Geosynthetic-reinforced retaining walls for flooding scour protection
Anna Kuznetsova, Svetlana Park
Soterra Engineering (Russia)

Experimental study of the influence of geosynthetic materials on the strength characteristics of dispersed soils
G.O. Anzhelo, L.YU. Ermoshina, A.O. Kravtsov
Moscow State University of Civil Engineering (Russia)

Deformation characteristics of sand with liquefaction history considering sand particle orientation
Mohammad Mahfujur Rahman, Hirofumi Toyota, Susumu Takada, and Ngoc Bao Le
Nagaoka University of Technology (Japan)

Consideration of input data influence for geotechincal parameter identification of rock dynamics
Rui Huang, Takafumi Seiki and Qinxi Dong
School of Regional Development and Creativity, Utsunomiya University (Japan)

Changes in geotechnical properties of embankments made of crushed solidified soils over time
Atsuko Sato and Masahiko Yamaki
Civil Engineering Research Institute for Cold Region (Japan)

Horizontal Prestressing Effects of Stone Columns: Numerical Insights into Installation and Analysis Methods
Pavel Dolgov, Wilhelm S. Degen

Geotechfem LLC, Dubai (UAE)
Soilmechanics GmbH (Germany)

Unlocking the Potential of Construction Waste Reuse in Slovenia: Challenges and Solutions
Tamara Bračko, Bojan Žlender and Borut Macuh
University of Maribor (Slovenia)

16:50-16:20	Coffee Break

16:20-17:50	AsRTC10 «Urban Geo-informatics»	Hall 1

Chairs: Dr. Naoko Kitada
Mrs. Rie Wada

Boring Data Base to Characterize Hidden Active Fault for Urban Safety in Osaka and Almaty
Yoshinori IWASAKI and Askar Zhussupbekov
Iwasaki Geo-Engineering Office (Japan),
Eurasian National University (Kazakhstan)

Insights into liquefaction risk associated with microtopography of Tokyo lowland
K. Ishikawa and S. Yasuda
Tokyo Denki University (Japan)

Seismic Response Study in Krishna-Godavari Offshore Region of India
A. Boominathan, R.Vijaya and V.Bhakya Varshiny
Indian Institute of Technology Madras, Chennai (India)

Development of GIS-Based Mapping for Ground Shaking Susceptibility Using Microtremor in Densely Populated Areas of Sukumo City, Japan
Tadashi HARA, Muhammad Agra Rully Putra, Masayuki Yamada, Koji Hada
Kochi University (Japan)

Glacier Lake Outburst Flood (GLOF) Hazard Assessment and Modelling in parts of Himalaya
Lucky Shukla, Ajanta Goswami
Indian Institute of Technology Roorkee (India)

Landslide Dam Hazard Zonation in the Alaknanda Catchment, Uttarakhand, India Using Frequency Ratio Modelling
Shivani Joshi, Srikrishnan Siva Subramanian
Indian Institute of Technology Roorkee (India)

Preliminary Note on Utilization of Geo–informatics Database - Spatial Visualization and Clustering

Naoto Inoue
Geo-Research Institute (Japan)

16:20-17:50	TC-305 Geotechnical Infrastructure for Megacities and New Capitals	Hall 2

Chairs: Prof. Ikramov Fayzulla
Prof. Khomyakov Vitaliy

Damage measures of low-rise building foundations on layered sands due to earthquake impacts
D.W. Chang, S.H. Cheng, L. Ge, A. Zhussupbekov, and R. K.-N. Wong
Tamkang University (Taiwan)
Taiwan Building Technology Center, National U. of Science and Technology (Taiwan)
Department of Civil Engineering, National Taiwan University
Sanshin Corporation (Taiwan)
Department of Civil Engineering, L.N. Gumilyov Eurasian National University (Kazakhstan)

Dynamic Analyses of a Fill Dam by Elasto-Plastic Constitutive Models
Tadatsugu Tanaka
University of Tokyo (Japan)

Effect of strength reduction factor on settlement of a single pile
V.V. Sidorov, A.S. Almakaeva, A.Z. Ter-Martirosyan
Moscow State University of Civil Engineering (National Research University) (Russia)

Numerical Analysis on Response of Battered Pile under Combined Lateral and Uplift Loading
Vaishnavi Pandey, B. Janaki Ramaiah and Ramanathan Ayothiraman
Indian Institute of Technology Tirupati (India)

Studying the mixing of problematic soils
Lamyaa Najah Snodi
Department of Civil Engineering, College of Engineering, University of Tikrit (Iraq)

Application of Electrical Tomography for Studying the Lithological Structure of Foundation Soils for the Construction of a Unique High-Rise Building in Astana
Nuguzhinov Zh.S., Zhumadilova N.Zh. and Beketova M.S.
KazMIRD Institute of the NJC "KarTU named after Abylkas Saginov", Karaganda (Kazakhstan)
"KarTU named after Abylkas Saginov", Karaganda, Kazakhstan

Case Study of Retaining Wall Reinforcement on Slop Stability
M.H. Ahn, B.S. Kim, W.H. Kim, S.K. Lee, C.M. Kim, J.K. Kang
Semyung University (Republic of Korea)

16:20-17:50	TC-305 Geotechnical Infrastructure for Megacities and New Capitals	Hall 3

Chairs: Dr. Rafael Sharafutdinov
Dr. Ankit Garg

Assessment of the bearing capacity of driven piles in subsiding soils based on static tests
Askar Zhussupbekov, Eun Chul Shin, Gulnaz Zhairbayeva, Nurgul Shakirova, Ruslan Bazilov, Almagul Mukasheva
Eurasian National University (Kazakhstan)
Incheon National University Incheon National University Incheon (South Korea)
"KGS-Astana" LLP, Astana (Kazakhstan)

Study of rutting on roads of Shymkent city
B.B. Teltayev, G. Loprencipe, U. Kalybayev, E. Aitbayev and A. Zhaisanbayev
LLP "Road Research and Production Center" (Kazakhstan)

Fast-moving seismically induced hazardous geological phenomena in South-Eastern Kazakhstan as a factor in assessing natural hazards and ways of their systematic mitigation
A. Abdullaev, V. Borisov, E. Yesenzhigitova, A. Urkembayeva
LLP "National Scientific Seismological Observations and Research" Ministry of Emergency Situations of the Republic of Kazakhstan (Kazakhstan)

Results of demercurisation works in Central Kazakhstan and monitoring of ecological state of the environment
Kamberov I.M., Duisebayeva T., Abdullaev A.U., Ilyushchenko M., Nussbaumer M.
LLP "National Scientific Seismological Observations and Research" Ministry of Emergency Situations of the Republic of Kazakhstan (Kazakhstan)
NAC Kazatomprom JSC, Volkovgeologiya JSC (Kazakhstan)
AUEC (Kazakhstan)
"Posch & Partners" Consulting Engineers (Austria)

18:00-19:30	**Welcome Reception**	**GrandHall**

Chairman: Dr. Shyngys Zharassov

Friday 29 August 2025		
9:00-10:30	AsRTC10 «Urban Geo-informatics»	Hall 1
Chairs: Dr. Takafumi Seiki Dr. Rui Huang		

Regional modeling for flood simulation using MIKE+ and MIKE SHE
Akbilek Seitmukhanbet, Alfrendo Satyanaga, Robby Yussac Tallar, Sung-Woo Moon, Jong Kim
Nazarbayev University (Kazakhstan)
Universitas Kristen Maranatha (Maranatha Christian University), Bandung (Indonesia)

Debris Flow Modelling using FLO-2D
Luiza Tanzhanova, Alfrendo Satyanaga, Budijanto Widjaja, Sung-Woo Moon, Jong Kim
Nazarbayev University (Kazakhstan)
Universitas Katolik Parahyangan, Jawa Barat (Indonesia)

Simple methods for measuring groundwater levels to estimate damage to low-rise housings due to liquefaction
Susumu Yasuda and Keisuke Ishikawa
Tokyo Denki University (Japan)

On detailed seismic zoning of regions of Kazakhstan using GIS technologies
Natalya Silacheva
National Center for Seismological Observations and Research, MES RK (Kazakhstan)

Application of GIS to assess permafrost degradation in southern Taimyr
P.I. Kotov, A.Yu. Gunar
Fedorovsky Polar State University (Russia)

Development of an accessible remote method for monitoring landslide processes
Habibov F.G., Zeynalov F.Z., Bayramova K.K.
Azerbaijan Scientific Research Institute of Construction and Architecture (Azerbaijan),
Azerbaijan Architectural and Construction University (Azerbaijan)

AI-Powered Smart Sensors for Enhancing Safety in Mining and Construction
Kumar Pradeep, JS Dhanya, Askar Zhussupbekov
Onlilo Technologies LLP (India)
Conticorium Technologies Pvt. Ltd (India)
L.N. Gumilyov Eurasian National University (Kazakhstan)

9:00-10:30	AsRTC19 «Geo-engineering for conservation of heritage monuments and historical sites»	Hall 2

Chairs: Dr. Mai Sawada
Prof. Yukiyasu Fujii

Development of GIS for monitoring of dams in Kazakhstan: processing, analyses, and functionality
Kamila Tanyrbergenova, Balgaisha Mukanova, Tolkyn Mirgalikyzy, Nurtilek Assankhan, Arynbek Bekdaulet, and Abulkhair Islamov
Department of Computer Engineering, Astana IT University, Astana
Department of Computer and Software Engineering, L.N.Gumilyov Eurasian National
Faculty of Information Technology, Abay Myrzakhmetov Kokshetau University (Kazakhstan)

Seismic and resistivity surveys to assess the damage to the Sakuradani Kofun tumuli caused by the Noto earthquake
Yutaro Hara, Shotaro Hijikata, Reiko Kuwano
The university of Tokyo (Japan)
Institute of Industrial Science (Japan)

Artificial Stone Construction and its Heritage Structures in Japan: Traditional and Ecological Method for SDGs
Yukiyasu Fujii, Kantetsu Asano, Takehiro Amano, Kentaro Iwashita, Koki Takeuchi
Department of Civil Engineering, Faculty of Science and Technology, Meijo University (Japan)

Mapping Geological Hazards – Problems and Trends
Ivan Bogdanov, Pavel Alexandrov, Ilya Bezruchko
GEOIZOL Project LLC (Russia)

Features of the construction of buildings in the historical center of the city
Elena Gryaznova
National Research Moscow State University of Civil Engineering (Russia)

Accounting for resonant phenomena in the upper layers of dispersed soils in predicting the dynamic behavior of pile foundations
Leonid V. Nuzhdin and Victor S. Mikhailov
Novosibirsk State University of Architecture and Civil Engineering (Russia)

Stability Assessment of Ash Mound Using Traditional and Advanced GIS-enabled Modelling Approaches

Avinash Sajwan, Pranjal Singh, and G. V. Ramana
Indian Institute of Technology Delhi, New Delhi (India)

9:00-10:30	TC-305 Geotechnical Infrastructure for Megacities and New Capitals	Hall 3

Chairs: Dr. Pavel Dolgov
Dr. Anora Karimova

Establishing characteristics of cyclic freeze-thaw of a road pavement and subgrade in Almaty region
B.B. Teltayev, G. Loprencipe, G.I. Salgarayeva and A.N. Muta
Kazakh National Women's Teacher Training University (Kazakhstan)

Change of seismic properties of the base as a result of soil strengthening by deep mixing method
Khomyakov Vitaliy, Yemenov Yusuf, Zhamek Nurken, Dursynov Said, Kanatova Zhanna, Aliev Ismat
Kazakh Leading Academy of Architecture and Civil Engineering, Department of Civil Engineering (KazGASA) (Kazakhstan)
Kazakh Research Institute of Construction and Architecture (Kazakhstan)

Geological features of rough masses in landslide sites in the area of motor roads along mountain slopes
Aymurzaev A., Kutlumuratov B., Kiyalbayev A., Sagybekova A., Abdykalykov A, Madanbekov N.
Department of Transport Construction and Production of Building Materials (Kazakhstan)
N. Isanov Kyrgyz State University of Construction, Transport and Architecture (KSUCTA), Bishkek (Kyrgyzstan)

Geotechnical fiber-optic monitoring of the technical condition of bridges and tunnels in the Arctic coastal infrastructure
S.Kudryavtsev, I.Granev, D.Tsvigunov, T.Valtseva and I.Shestakov
Department of Bridges and Tunnels, FESTU, Khabarovsk (Russia)
Tech Pro Industries, Moscow (Russia)

Justification of changings in parameters of stressed-strained state of oil-contaminated sandy soils
Rashid A. Mangushev, Alina V. Kvashuk, Alena V. Belkova, Anna A. Tatarinova

Saint-Petersburg State University of Architecture and Civil Engineering (Russia)

Application of hemihydrate and dihydrate calcium sulfate in road constructions
Talal Awwad, Pavel A. Kravchenko, Baira B. Galdgaeva, and Tatyana B. Ivanskaya
Emperor Alexander I Petersburg State Transport University, Saint Petersburg (Russia)

10:30-11:00	Coffee Break	

11:00-12:30	AsRTC10 «Urban Geo-informatics» AsRTC19 «Geo-engineering for conservation of heritage monuments and historical sites»	Hall 1

ATC10 Chairs: Dr. Naoto Inoue
Dr. Lamyaa Najah Snodi
ATC19 Chairs: Dr. Mai Sawada
Dr. J.S Dhanya

Study on Methods for Extracting Landslide Risks Using Airborne LiDAR Data on Expressways
Katsushi Sasak, Koji Nishimura and Toko Takayama
Nippon Expressway Research Institute Company Limited (Japan)
iAsia Air Survey Company Limited (Japan)

Use of sand covers for soil moisture control in archaeological sites
Wei Wo and Mai Sawada
Institute of Science Tokyo (Japan)

Detection of Landslide Potential Based on Regular Deformation Using DInSAR: A Case Study of Taipei City
Kuo-Lung Wang, Jun-Tin Lin, Min-Hsi Hsieh, Huei-Ling Lin, and Wei Fang
National Chi Nan University (Taiwan)
RST Inc., Puli, Nantou (Taiwan)
Taipei City Government, Taipei (Taiwan)

Underground space of a metropolis. A case history
A.Shaposhnikov, A.Misuk and D.Antonenko
Gersevanov Research Institute of Bases and Underground Structures, Department for Soil improvement, Moscow
Research Institute of Bases and Underground Structures, Department for Soil improvement, Moscow (Russia)

Borehole information system and subsurface modelling using GIS
Divya Priya Balasubramani, Kanagavel P and Prasanna P
Assistant Professor, Institute of Remote Sensing, Department of Civil Engineering, Anna University, Chennai (India)

Integration of 3D Geological Model and Architectural Model for Design and Construction of Bored Tunnel in Singapore
Keisuke Tada, Tomohiro Yasuda
Kiso-Jiban Consultants Co., Ltd. Singapore Branch (Singapore)

Snow Avalanche Hazard Zonation in the Indian Himalayas: A case study of Rudraprayag region, Uttarakhand, India
Joshal Kumar Bansal, Ajanta Goswami, Snehmani
Defence Geoinformatics Research Establishment (DGRE)
Indian Institute of Technology Roorkee (India)

11:00-12:30	TC-305 Geotechnical Infrastructure for Megacities and New Capitals	Hall 2

Chairs: Dr. Tatsuya Ishikawa
Prof. Bagdad Teltayev

Advance preparedness for earthquakes is the key to seismic safety
Pulod Aminzoda
leading researcher, Institute of Geology, Earthquake Engineering and Seismology of the National academy of sciences of Tajikistan

Results of numerical modeling of ground improvement with rigid inclusions as dry concrete columns
Tatiana Tronda
Intersectoral Institute for Advanced Training and Retraining in Management and Personnel Development, Belarusian National Technical University (Belarus)

Dynamic stability evaluation of underground structures considering back analysis of rock mechanics parameters: a case study of the Oya tuff quarry
Rui Huang, Takafumi Seiki and Qinxi Dong
Xihua University (China),
Utsunomiya University (Japan),
Hainan University (China)

Patterns of Activation and Manifestation of Landslide Processes (on the Foothill Slopes of the Zarafshan Oasis, Uzbekistan)
Fayzulla Ikramov, Muqim Yakubov, Akbar Ravshanov, Ziyo Normamatov, Mamatkul Amirkulov
Samarkand State University named after Sharof Rashidovich Rashidov (Uzbekistan)

Seismic resistance of continuous monolithic bridges, accounting for post-tensioning cable tension during the interaction between support foundations and soil
Ibrakhim Mirzaev, Ulugbek Shermukhamedov, Askar Zhussupbekov, Abdurakhim Abdullaev, Anora Karimova, Dilbar Askarova
Tashkent State Transport University, Tashkent (Uzbekistan)
L.N. Gumilyov Eurasian National University, Astana (Kazakhstan)

Influence of fibre and carbon negative material on the stability of infinite slopes
Anuj Pal, Akash Ramenini, Bharat Rattan, Ankit Garg, Neelima Satyam and Askar Zhussupbekov
Xi'an Jiaotong-Liverpool University (China)
Harbin Institute of Technology (China)
L.N. Gumilyov Eurasian National University (Kazakhstan)

11:00-12:30	TC-305 Geotechnical Infrastructure for Megacities and New Capitals	Hall 3

Chairs: Prof. Tadatsugu Tanaka
Dr. Anatoliy Osokin

The concept of employing monitoring systems on roadways and railways situated in permafrost regions, with consideration of potential climate change
K. Usherovich, I. Granev, A. Cherkasov, D. Epifantsev, R. Paliy and S. Artamonova
PC «TECH PRO INDUSTRIES» LLC, Moscow (Russia)
Department «Transport Construction in Extreme Conditions», Moscow (Russia)
Russian university of transport (Russia)

Unlocking the Potential of Construction Waste Reuse in Slovenia: Challenges and Solutions
Tamara Bračko, Bojan Žlender and Borut Macuh
University of Maribor (Slovenia)

Underpinning and deep foundations load transfer of a ten-storey building in Lisbon
Alexandre Pinto, Carlos Martins, Catarina Fartaria, Rui Tomásio
JETsj Geotecnia (Portugal)

Dewatering and its complexities in design and implementation
Silicheva Catherine Dmitrievna, Hüsnü Korhan Ozalp, Demin Nikita Vladimirovich
Mining University, Saint-Petersburg (Russia)
Elba engineering llc (Russia)

Justification of the choice of dust suppression materials for roadside areas with low coverage and construction sites: international and Kazakhstan experiences
Kutlumuratov B., Sagybekova A., Mukashev D., Kiyalbayev A
Department of Transport Construction and Production of Building Materials (Kazakhstan)

Detection of the unbonded sections of fully grouted rock bolts using acoustic waves
Seonghun Kang, Jong-Sub Lee
School of Civil, Environmental and Architectural Engineering, Korea University (South Korea)

Geotechnical analysis of the applicability of modern pile technologies for construction in the historical part of St. Petersburg and in the reconstruction of buildings
Osokin A., Aidamirova E.V.
Saint-Petersburg State University of Architecture and Civil Engineering (Russia)

12:30-13:00	Poster Session	

13:00-14:00	Lunch	

14:00-14:15	Special speaker III	GrandHall

Chair: Dr. Abilkhair Issakulov

Construction of vertical cut-off walls for reducing exposure to floods
Mr. Waldemar Kwiatkowski
Geofocus LLP (Poland)

14:15-14:35	Invited lecture II	GrandHall

Chair: Prof. Mirsayapov Ilizar

Assessment of Soil Contamination in Incheon Harbor Area
Prof. Eun Chul Shin
Incheon National University (South Korea)

14:35-14:55	Invited lecture III	GrandHall

Chair: Dr. J.S. Dhanya

Design of the First Metro Line in Almaty Crossing Tectonic Fault Zones
Mrs. Akzhan Urazbayeva
LLP "Metroproekt" (Kazakhstan)

14:55-15:15	Invited lecture IV	GrandHall

Chair: Dr. Alexandre Pinto

Engineering Solutions and Case Studies in Disaster Mitigation
Dr. Anil Joseph
Geostructurals Pvt Ltd (India)

15:15-15:30	**Thematic** lecture I	GrandHall

Chair: Dr. Fayzulla Ikramov

Statistical and regression analysis of sand and clay stiffness in triaxial tests
Dr. Rafael Sharafutdinov
Gersevanov Research Institute of Bases and Underground Structures (Russia)

15:30-15:45	**Thematic** lecture II	GrandHall

Chair: Dr. Alfrendo Satyanaga

Hazardous Geological Processes and Their Impact on the Condition of Architectural Monuments
Prof. Fayzulla Abdullaevich Ikramov
Samarkand State University named after Sharof Rashidovich Rashidov (Uzbekistan)

15:45-16:00	**Thematic** lecture III	GrandHall

Chair: **Prof. Adimoolam Boominathan**

Geoinformational zoning in addressing hazards from natural disasters
Dr. Daulet Sarsenbayev
National Scientific Center for Seismological Observations and Research (Kazakhstan)

16:00-16:30	Coffee break	

16:30-16:50	Bright Spark Lecture I	GrandHall

Chair: Prof. Keh-Jian Shou

Environmental assessment of pyrolyzed industrial mixed plastic waste
Dr. Balganym Dosmukhambetova
Eurasian National University (Kazakhstan)

16:50-17:10	Bright Spark Lecture II	GrandHall
Chair: Prof. Tadashi Hara		
Stabilization and Ecological Restoration of Tailings: Addressing Key Challenges and Future Opportunities *Ph.D. Bharat Rattan* Postdoctoral Fellow | Harbin Institute of Technology (China)		

17:10-17:30	Bright Spark Lecture III	GrandHall
Chair: Dr. Irina Koroleva		
Brittle Failure Mechanism and Evaluation Model of Reef Limestone under Multi-Factor Regulation of Mineral-Pore-Interface Interactions *Dr. Yang Liu* Ph.D candidate in Geotechnical Engineering | Wuhan University of Technology (China)		

17:30-18:30	Closing ceremony	GrandHall
19:00-21:30	**GALA DINNER (TICKET REQUIRED)**	**Zhuambyl Restaurant Room**
Chairman: Prof. Yelbek Utepov		

POSTER SESSION

10:45-11:20	Poster session 1-1 / 28.08.2025	Poster session area

Calculation of building sediments taking into account the creep of the base soils composed of dislocated Proterozoic (Cambrian) clays
H.Z. Bakenov, S.A. Kudryavtsev
St. Petersburg State University of Architecture and Civil Engineering (Russia)

Application of Airborne Laser Scanning for Monitoring Deformations of the Nadym–Salekhard Highway under Permafrost Conditions
A. Erofeev, S. Shemyakov, S. Pogrebnyak, O. Li and A. Sinitsky
Problem Research Laboratory of Glacioclimatology, National Research Tomsk State University, Tomsk
Tomsk State University of Architecture and Building, Tomsk
Geotechnics Sector, Arctic Research Center, Salekhard (Russia)

GIS-based landslide risk assessment in Karo Regency, North Sumatera, Indonesia
Ika Puji Hastuty, Fauziah Ahmad and Sania Salwa Ferahain
ISSMGE University
Geotechnical University
Universitas Sumatera Utara (Indonesia)

Computational justification of the use of protective measures in the construction of excavation pits in dense urban areas on weak soils
Mangushev R.A., Osokin A.I., Kalach F.N., Maltseva K.A.
Saint-Petersburg State University of Architecture and Civil Engineering (Russia)

Modeling of stress strain state of water saturated weak soil when injected along the lateral surface of the pile to increase bearing capacity of the bored pile
Kozyrev K.S., Kondratieva L.N., Voznesenskaya E.S., Osokin A.I.
Saint-Petersburg State University of Architecture and Civil Engineering (Russia)

Information modelling in geotechnics
G. Boldyrev, I. Idrisov, A. Ivanov
LTD "NPP-Geotek" (Russia)

15:50-16:20	Poster session 1-2 / 28.08.2025	Poster session area

Investigation of laboratory and field tests of piles installed by displacement technology
Askar Zhussupbekovi, Abdulla Omarov, Abilkhair Issakulov, Isatai Utebayev, Samat

Zhekeyev and Ryskulov Begim
L.N. Gumilyov Eurasian National University, Astana
Department Transport equipment, transportation organization and construction, Aktobe Regional University named after K. Zhubanov (Kazakhstan)

Thermodynamic parameters of earthquake swarms
I.N. Litovchenko and V.S. Lyutikova
Leading Researcher Laboratory of Geodynamic and Seismic Processes National Scientific Center for Seismic Observations and Research (NSCSR EMERCOM RK)
Master of Engineering and Technology, Junior Research Fellow Laboratory of Geodynamic and Seismic Processes, National Scientific Center for Seismic Observations and Research (NSCSR EMERCOM RK) (Kazakhstan)

Enhancing Slope Stability Under Extreme Rainfall Conditions Through Biomineralization Technology
Yuyuan Chen, Hemanta Hazarika, Nadella Marchelina
Kyushu University (Japan)

Effect of rice husk ash geopolymer amendments on the strength of sandy soils
Taichi Hyodo , Keigo Fujishima and Masafumi Tateda
Department of Environmental and Civil Engineering, Toyama Prefectural University (Japan)

The influence of engineering and geological conditions on the zoning of urban development
Assem Abisheva, Nurgul Alibekova, Saltanat Mussakhanova, Ilyas Zhumadilov, Kaldybai Arynov
L.N. Gumilyov Eurasian National University (Kazakhstan)
Toraighyrov University, Pavlodar (Kazakhstan)
Shakarim University, Semey (Kazakhstan)

Environment - preservation and development of folk crafts in the settlement structure of Kazakhstan
K.K. Arynov , Sh.Zh.Surankulov, N.A.Tursynbaev , S.Sh.Sadykova , A.K. Abisheva
L.N. Gumilyov Eurasian National University (Kazakhstan)
Department of Architecture and design Kazakh Agrotechnical Research University named after S. Seifullin, Astana (Kazakhstan)

10:30-11:00	Poster session 2-1 / 29.08.2025	Poster session area

Quantitative Risk Assessment of Ground Deformations in Azerbaijan Onshore Petroleum and Gas Fields
E. Bayramov, M. Buchroithner, M. Kada, J. Neafie, A. Duisenbiev and S. Aliyeva
Nazarbayev University, Astana (Kazakhstan)

Dresden University of Technology, Dresden (Germany)
Technical University of Berlin, Berlin (Germany)
Kazakhstan Maritime Academy, Kazakh-British Technical University, Almaty (Kazakhstan)
ADA University, Baku (Azerbaijan)

Experimental study of changes in the patterns of freezing and thawing of the ground base of the pavement
K.A. Aitbaev, K.B. Tileu and M.B. Zhumamuratov
Department of the Scientific Research Center, KazdorNII JSC, Almaty
KazdorNII JSC, Astana
Department of Science, KazdorNII JSC, Astana (Kazakhstan)

Case Study of Retaining Wall Reinforcement on Slop Stability
M.H. Ahn, B.S. Kim, W.H. Kim, S.K Lee, C.M. Kim and J.K. Kang
Disaster and Safety Engrg., Semyung University
Dept. of Civil Engineering., Daejin University
Dept. of Civil and Environmental Engrg., Incheon National University
Incheon Disaster and Prevention Center, Incheon National University (Korea)

Reconstruction of the ventilation system of the automobile tunnel of Too-Ashuu named after K.Kolbaev
S. U. Isagalieva, Zh. M. Ganiev, G.A. Kadyralieva, Meimanbek kyzy Aizirek and B.T. Djakupbekov
Kyrgyz State Technical University named after I.Razzakov, Bishkek (Kyrgyzstan)

Application of geosynthetic materials to increase the strength of road foundation soils
Mukashev D., Kutlumuratov B., Baratova T.
Department of Transport Construction and Production of Building Materials (Kazakhstan)

Retrofitting Urban Drainage Systems to Mitigate Flooding: A Case Study of Groundwater-Induced Basement Flooding at Semey Emergency Hospital, Kazakhstan
A. Sarsembayeva, G. Orazbekova, I. Zhumadilov, G. Sadvakassova, K. Babosinova and Rakhman Kazybek
Shakarim University, Semey
Nazarbayev University, Astana (Kazakhstan)

12:30-13:00	Poster session 2-2 / 28.08.2025	Poster session area

The main risk factors in soil reinforcement using by “Geocomposite” method
Dmitry Chunyuk, Selviyan Serafima
MGSU (Russia)

Geotechnical analysis of the causes of dam failure in Central Kazakhstan and recommendations for its rehabilitation

Zhanbolat A. Shakhmov, Gulshat T. Tleulenova and Khafiz Kairat
L.N. Gumilyov Eurasian National University (Kazakhstan)

Geotechnical support for mechanical safety of underground water supply structures taking into account complex soil conditions and extraordinary impacts
Nikolai A. Perminov
Emperor Alexander I St. Petersburg Transport University (Russia)

A study of ground vibration characteristics of Sakuradani Tomb damaged during the 2024 Noto Peninsula Earthquake using microtremor measurements
Kohei Hara, Tomofumi Koyama and Mai Sawada
Kansai University (Japan)

Numerical study of bearing capacity of composite stone column
Sharaf Hani M.
KSUAE University (Russia)

Load-bearing capacity of span structures of transport facilities under dynamic effects
Saule Dostanova, Saulet Shayakhmetov, Erkin Isakhanov, Zaure Kalpenova, Kamilya Tokpanova, Gulsum Kasymova
Satbayev University (Kazakhstan)

16:00-16:30	Poster session 2-3 / 29.08.2025	Poster session area

Evaluating the Effect of Groundwater Table Variations on the Seismic Resilience of Residential Buildings in Almaty City
Amanbayev Chingis, Nazari Azizulla, Shakhmov Zhanbolat
L.N. Gumilyov Eurasian National University (Kazakhstan)

Study of the Stiffness of Floor Diaphragms Made of Hollow-Core Reinforced Concrete Slabs
U. Altigenov, A. Bespaev, A. Tulebekova
L.N. Gumilyov Eurasian National University (Kazakhstan)
Kazakh Research and Design Institute of Construction and Architecture Investment (JSC "KazNIISA"), Almaty (Kazakhstan)

Behavior of sandy soils of different particle sizes under dynamic loads
Lidiya N. Kondratieva, Vyacheslav M. Polunin, Konstantin V. Mchedlidze and Alexandra V. Vagurina
St. Petersburg State University of Architecture and Civil Engineering (Russian Federation)

Study of seismic hazard in Zhambyl region of Kazakhstan
Aigul Danabayeva, Zauresh Sailaubayeva, Asel Katubayeva
National Scientific Center for Seismological Observation and Research LLP, The Ministry of Emergency Situations RK (Kazakhstan)

Monitoring of permafrost conditions in built up areas with thermal imaging
Ilyichev V.A., Nikiforova N.S., Abramova E.V., Konnov A.V.
Scientific-Research Institute of Building Physics of the Russian Academy of Architecture and Construction Sciences, Moscow (Russia);
National Research Moscow State University of Civil Engineering (Russia)

Study of the possibility and efficiency of using geosynthetic reinforcement of weak soils in seismic-prone regions of Kazakhstan
N. V. Surovtseva, T. D. Abakanov
National Scientific Center for Seismological Observations and Research of the Ministry of Emergency Situations of the Republic of Kazakhstan (Kazakhstan)

Investigation of Pile-Soil Interaction in Bridge Foundations for Complex Ground Conditions
Bibigul Abdrakhmanova, Akira Hasegawa, Askar Zhussupbekov, Gaukhar Nigmetova
Kazakhstan Geotechnical Society (Kazakhstan)
L.N. Gumilyov Eurasian National University, Astana

Investigation of the bearing capacity of drilling piles by field testing under static loads
A. Zhussupbekov, A. Mukasheva, N. Shakirova, G. Zhairbayeva and Ruslan Bazilov
L.N. Gumilyov Eurasian National University (Kazakhstan)
Manager of "KGS-Astana" LLP, Astana (Kazakhstan)

EXHIBITORS INFORMATION

ILMI SOLUTIONS OY — E1

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ILMI SOLUTIONS OY (Finland) is the official representative of LLAMADA S.L. (Spain), which is designing and manufacturing LLAMADA pile drilling rigs without any compromises for all common pile drilling techniques as:
-CFA, -DTH, -FDP, -SP, -CP, -CMC, -soilmixing, -micropiles.
ILMI is designing and supplying monitoring applications and special components to pile drilling industry.
LLAMADA pile drilling rigs significantly differ from competitor`s rigs and provides following advantages:
-high drilling capacity, -compact size, -high stability, -minimal weight, -very long piles without Kelly extension
LLAMADA is the reliable supplier and partner to professional piling companies around the world.

LLP «KGS-ASTANA» — E2 & S1

Address	Akzhol street 82, Astana, Kazakhstan-010000
Contact	Azamat Zhussupbekov
Job Position	Director
TEL	+7 777 211 9321
Email	kgs-astana@mail.ru
Website	kgs-astana.kz

KGS-Astana Limited Liability Partnership (LLP) was established in May 2002, We render the following services: pile driving, installing of bored piles, testing of soils and all types of piles, geological investigations and piles testing. Having wide working experience, advanced equipment and highly qualified staff the company is able to perform any volume of work related to installation of pile foundations and their scientific and technical support. KGS- Astana is equipped by the most reliable and high-technology rigs, such as Bauer, Junttan and etc.

GEOBRUGG AG (LLP «GEOSTEIN») E3 & S3

Address	office 207/1, drop 1, Kunaev street, Almaty, Kazakhstan, 050016
Contact	Klara Toxanbayeva
Job Position	Business development manager for infrastructure and civil construction
TEL	+7 771 775 2838
Email	klara.toksanbayeva@geostein.kz
Website	https://www.geostein.kz

Safety is our nature - true to this guiding principle, we have been developing and manufacturing protection solutions since 1951. High-strength steel wire nets and matching services monitor and protect against natural hazards such as rockfall, landslides, debris flows, avalanches or coastal erosion. They ensure safety in mining and tunneling as well as on motor sports tracks, in industry and in test facilities. With experience, a spirit of research, continuous internal training and close cooperation with research institutes, we drive innovation and industry standards. TOO Geostein is the official representative of Geobrugg AG in Kazakstan, Almaty.

SENSORS ONE LLP E4

Address	#1A building, Kozheduba street, 050056, Almaty, Kazakhstan
Contact	Kretova Svetlana
Job Position	Marketing manager
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Website	https://www.sensors.kz

Sensors ONE LLP provides a full range of Engineering Services for the Development and Implementation of Automated Geotechnical Monitoring Systems, which includes the following stages: Pre-design Survey of the site; Development of Technical Solutions; Development of Design Documentation; Instrumentation Supply; Software Supply; Installation and Commissioning; Putting into Commercial Operation Training of Service Personnel; Technical and Service Maintenance.

Our geotechnical monitoring tools allow us to monitor changes in key parameters of the site such as ground displacement (settlement or lateral movement), groundwater levels, dam seepage, etc. We, as a team of professionals with 10 years of systematized experience in the Mining Industry, successfully implement geotechnical monitoring projects at the following sites: Tailings Dams, open pits, mines, ash ponds. We are the authorized distributor of RST Instruments Ltd. and Sommer Messtechnik in the countries of Central Asia.

GEOBRUGG AG (LLP «GEOSTEIN») E5

Address	Komsomolsky avenue 34, Perm, Russia, 614000
Contact	Yudakov Aleksei
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Email	info@malininsoft.ru
Website	www.malininsoft.ru

MalininSoft software is designed to various types of underground structures calculations: strength and stability of pit fences with anchors and spacers, stability of slopes, settlement of slab foundations. A distinctive feature of MalininSoft programs is interface simplicity and convenience, which allows you to calculate different options and choose right design solution quickly.

SPONSORS INFORMATION

LLP «KGS-ASTANA» S1 & E2

KGS-ASTANA

Address	Akzhol street 82, Astana, Kazakhstan-010000
Contact	Azamat Zhussupbekov
Job Position	Director
TEL	+7 777 211 9321
Email	kgs-astana@mail.ru
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BAUER MASCHINEN GMBH S2

BAUER MASCHINEN

Address	BAUER-Straße 1, Schrobenhausen, Germany- 86529
Contact	Tanja Kopold
Job Position	Head of Marketing
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Email	tanja.kopold@bauer.de
Website	www.bauer.de/bma

Specialist foundation engineering machinery from Bauer has been a byword for top performance and quality and for continuous innovation since the late 1960s. BAUER Maschinen GmbH, which designs and manufactures rotary drilling rigs, diaphragm wall equipment and all related tools, has been operating on the market as an independent entity within the BAUER Group since 2001. With the subsidiaries of BAUER Maschinen GmbH we provide the full range of specialist foundation engineering equipment and equipment for exploration, mining and safeguarding of valuable natural resources.

GEOBRUGG AG (LLP «GEOSTEIN») S3 & E3

Address	office 207/1, drop 1, Kunaev street, Almaty, Kazakhstan, 050016
Contact	Klara Toxanbayeva
Job Position	Business development manager for infrastructure and civil construction
TEL	+7 771 775 2838
Email	klara.toksanbayeva@geostein.kz
Website	https://www.geostein.kz

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«GEOFOCUS» LLP S4

Address	Shokan Ualikhanov St 13, block B, office 4, Atyrau, 060002
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Website	

Geofocus LLP, the geotechnical specialist contractor providing a wide portfolio of advanced foundation and ground improvement techniques used across the entire construction sector. Geofocus LLP offers a wide range of technologies for ground improvement, retaining structures and deep excavations, ensuring the stability of slopes, as well as special injection grouting, including design and monitoring.

«SPECINGGEO» LLP S5

Address	st. Prigorodnaya 3/2, office 305, Karaganda, Kazakhstan
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Website	spengeo.kz

«SpecIngGeo» LLP is a Kazakhstan-based engineering company providing a full range of services in the field of engineering surveys. We conduct geotechnical, geophysical, and geodetic investigations, as well as field and laboratory soil testing. The company operates its own fleet of drilling rigs, geophysical instruments, dilatometers, advanced measurement systems, and equipment for the construction of bored piles. Our key clients include Qarmet (Atansor mine, mine water accumulation pond), KGS Astana (Ertis Hydrometallurgical Plant), KazNIPI (engineering surveys for the MGIMO branch campus in Astana). Our portfolio covers industrial, residential, and infrastructure projects across Kazakhstan. We rely on advanced technologies, our in-house equipment, and strict compliance with national and international standards.

STUDIO PROF. MARCHETTI S.R.L. S6

Address	Via Cassia, 990, Rome, Italy, 00189
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Website	www.marchetti-dmt.it

Studio Prof. Marchetti is the Italian manufacturing company and patent owner of the following in situ geotechnical equipment: Marchetti Flat Dilatometer (DMT), Seismic Dilatometer (SDMT) and Automated Dilatometer (Medusa (S)DMT). The company headquarters and laboratories are located in Rome (Italy). All products are manufactured, assembled and tested inhouse. Since 1980, the international distribution is active in over 85 countries in 6 continents. The equipment was employed successfully in numerous international projects, onshore and offshore.
The company is constantly active in research projects, mostly in cooperation with academic international partners, published in technical journals and conference proceedings. Over 300 technical presentations were delivered in International Conferences, Universities and Research Institutes worldwide.

Gersevanov Research Institute of Bases and Underground Structures (NIIOSP named after N.M. Gersevanov) JSC Research Center of Construction S7

Address	109428, Moscow, 2nd Institutskaya str., 6/12
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Website	www.niiosp.ru

A structural subdivision of JSC Research Center of Construction, Gersevanov Research Institute of Bases and Underground Structures (NIIOSP named after N.M. Gersevanov) is a leading in Russia and well-known all over the world specialist institute operating in the field of soil mechanics, geotechnical engineering, foundation and underground construction. The Institute provides solutions to a comprehensive range of geotechnical engineering issues and offers multiple geotechnical services including engineering and geotechnical surveys, research, geostructural design and construction of foundations and underground structures. NIIOSP delivers geotechnical solutions for the most complex ground conditions and design challenges. Our top priority is to ensure safety and stability of a construction project and surrounding infrastructure, and to provide quality control to the project throughout its lifecycle. Possessing contemporary experimental facility and skilled-in-the-art personnel, Institute develops new efficient decisions on foundations and underground structures. NIIOSP is the first to render services on scientific and technical support for design and construction of remarkable and unique facilities.

«LKS ENGINEERING» LLP S8

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Our organization provides comprehensive services in structural inspection of buildings and facilities, industrial safety expertise, as well as non-destructive testing and defectoscopy of technically complex devices and equipment.

Karaganda Survey Institute LLP S9

KARAGANDA
SURVEY INSTITUTE

Address	Ermekova Street 3/2, Karaganda 100012
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Job Position	Director
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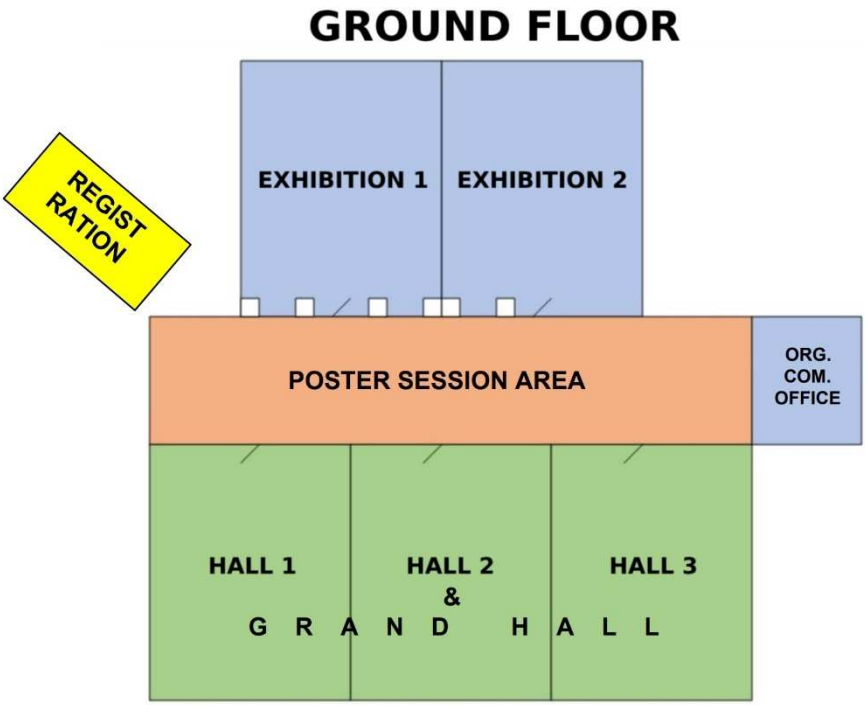
Website	

Our company offers a full range of engineering-geological and engineering-geodetic surveys necessary for preparing project documentation, obtaining expert approval, and successfully implementing construction projects.

Our services help minimize risks, reduce costs, and ensure compliance with regulatory requirements. We operate throughout Kazakhstan, carrying out surveys of any complexity with full support and a quality guarantee.

We have our own trained team of highly qualified specialists in all areas of engineering and surveying, equipped with drilling rigs, a laboratory base, and all the necessary permits.

Our experienced geologists, geophysicists, hydrogeologists, surveyors, drilling rig operators, laboratory technicians, and other specialists are ready to complete the most complex surveying tasks promptly and to the highest standard.



Session's rooms / Space		
Hall 1	Session room	Keynote, Invited, Special, Thematic, Bright Spark Lectures
Hall 2	Session room	
Hall 3	Session room	
Exhibition 1	Exhibition, Coffee break	
Exhibition 1	Exhibition, Coffee break	
Poster session area	Poster sessions, Coffee break	

Technical Tour

№	Time (from __to)	Name of sites
1	**7:30 – 8:00**	**Rahat Palace Hotel** (Almaty)
2	**8:20 – 9:00**	Installation of debris flow protective netting by **Geobrugg AG** along Dostyk Avenue, Almaty
3	**10:00 – 11:00**	Construction of an underground tunnel of the **Almaty Metro** (Almaty)
4	**13:00 – 14:00**	**Medeu Debris-Flow Retention** Dam, Almaty
5	**15:00 – 16:00**	**Medeu – Shymbulak Mountain** cableway with an ascent to an altitude of 3,200 m above sea level and a descent to 1,691 m (Medeu) – Route length: 4,500 m (Almaty)
6	**17:00**	**Rahat Palace Hotel** (Almaty))

The technical tour is scheduled to take place approximately from **8:00 to 17:00.**
The total route length is around with ≈ **90 km**, **4 planned stops at key locations.**

Please note that the timing may slightly vary depending on traffic conditions and unforeseen circumstances.

Thank you for your understanding!

For any questions about **Technical Tour**, please contact **Dr. Abdulla Omarov**.
WhatsApp: +7 707 846 6622,
Email: omarov_01@bk.ru

Group photo of Organizing Committee of the VI International Conference on GIS and Geoinformation Zoning for Disaster Mitigation

VI International Conference on GIS and Geoinformation Zoning for Disaster Mitigation (GIZ)

Almaty, Kazakhstan
2025