

Conference report

The international geotechnical seminar for Megacities and New capitals, Kazakhstan

The 2nd Kazakhstan Geotechnical Society (KGS) - Chinese Taipei Geotechnical Society (CTGS) international geotechnical seminar on TC 305 Geotechnical infrastructure for Megacities and New Capitals was held under the auspices of the Kazakhstan Geotechnical Society (Kazakhstan) and the Chinese Taipei Geotechnical Society (Taiwan), August 3th - 4th, 2018 in Astana, Kazakhstan and August 5th - 6th, 2018 in Almaty, Kazakhstan.

The main targets of seminar were to increase the interactions between KGS and CTGS and identifying opportunities for future collaborations. The seminar had a strong industry-related component to highlight geotechnical and construction opportunities.

The themes of this seminar covered various geotechnical issues, including underground construction, numerical modeling of the interaction of the raft-pile foundation, slope stability, improvement of soils, laboratory soil testing and field tests, soft soils, pile and deep foundations and geotechnologies.

The co-chairmen of the scientific committee of the seminar were Prof. Assemgul Moldazhanova, the first Vice-Rector for Academic Affairs of L.N. Gumilyov ENU and Prof. Keh-Jian Shou, President of the CTGS. The co-chairmen of the organizing committee of the international seminar were Prof. Askar Zhussupbekov (President of Kazakhstan Geotechnical Society, Head of the Department of Design of Buildings and Structures of L.N. Gumilyov ENU) and Prof. Der-Wen Chang (Secretary General of TC 305 Geotechnical infrastructure for Megacities and New Capitals of the ISSMGE, Professor of Tamkang University, Taipei, Taiwan), also included the faculty members, researchers of L.N. Gumilyov ENU, Nazarbayev University, LRT Construction, LLP and KazDORNII, JSC.

The seminar was held in two stages in Astana at the L.N. Gumilyov ENU (August 3rd - 4th, 2018) and in Almaty at the KazDORNII, JSC (August 5th - 6th, 2018).

More than 50 delegates from Taiwan, the USA, South Korea, the Republic of Belarus, Syria and Kazakhstan participated in the seminar. Head of the Chinese Taipei geotechnical delegation was Prof. Keh-Jian Shou (National Chung-Hsing University). Others delegates from Taiwan who participated in the seminar were Prof. Yung-Show Fang (National Chiao Tung University), Prof. Der-Wen Chang (Tamkang University), Prof. Meei-Ling Lin (National Taiwan University), Prof. Yu-Ning Ge (National Taiwan University), Prof. Hung-Jiun Liao (National Taiwan University of Science and Technology), Prof. Show-Ling Wen (Chinese Culture University), Prof. Chih-Wei Lu (National Kaohsiung First University of Science and Technology), Assistant Professor Shih-Hao Cheng (National Taiwan University of Science and Technology), Assistant Professor Fuchen Teng (National Taiwan University of Science and Technology).



Figure 1. Plenary session of the international seminar

Conference report

The international geotechnical seminar for Megacities and New capitals, Kazakhstan (Con't)

Prof. Assemgul Moldazhanova in the opening ceremony of the seminar gave a welcoming speech to the delegates. She mentioned about the strong cooperation between Tamkang University (Taiwan) and L.N. Gumilyov ENU (Kazakhstan) in the field of education and science. Also welcoming speeches were given by Prof. Keh-Jian Shou and Prof. Askar Zhussupbekov. They wished a fruitful work in the plenary and panel sessions of the seminar to the participants.

On the first day of the seminar the panel sessions included the oral presentations of keynote lecturers from Taiwan and Kazakhstan - Prof. Keh-Jian Shou (Department of Civil Engineering National Chung-Hsing University) on the key issues of trenchless excavation for underground pipelines; Prof. Askar Zhussupbekov (L.N. Gumilyov ENU) on geotechnical construction and testing of piling foundations on problematic soils of Kazakhstan; , Prof. Yung-Show Fang (Department of Civil Engineering, National Chiao Tung University) on reduction of interface friction between pressed-in caisson and soil deposits by non-friction method; Associate Professor Zhanbolat Shakhmov (L.N. Gumilyov ENU) on frozen soil ground characteristics impacting to hazards, and also included a special lecture from the sponsor of the seminar Vremya LLP, at Keller company (Atyrau, Kazakhstan). Mr. Waldemar Kwiatkowski focused on advanced geotechnical solutions for deep excavations in the city areas.



Figure 2. Prof. Yung-Show Fang during his lecture



Figure 3. Prof. Zhanbolat Shakhmov shared about Frozen soil properties and hazards

Young scientists and engineers from Kazakhstan, Taiwan and the USA presented their reports at the panel sessions. There were many questions devoted to laboratory and field testing of soils, in particular soft soils.

A closing statement was delivered by the co-chairs of the organizing committee Prof. Askar Zhussupbekov and Prof. Der-Wen Chang, as well as closing remarks by Prof. Keh-Jian Shou, President of the Chinese Taipei Geotechnical Society. Prof. Der-Wen Chang gave to the delegates and guests a brief introduction of the

Conference report

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forthcoming Asian Regional Conference on Soil Mechanics and Geotechnical Engineering (the 16ARC), which will be held on October 14th - 18th, 2019 in Taipei, Taiwan. Detailed information of the 16ARC can be found at the official website of the conference <http://www.16arc.org/>.

On the second day of the seminar, August 4th, 2018, a technical tour was conducted by the organizing committee to review the unique buildings and structures of Astana. In the second part of this day, a technical tour to LRT construction sites was held, organized by LRT Construction, LLP and KGS.

During the meeting in the office of LRT Construction, a General Director Adelsha Yermukhanov provided a brief overview of the LRT construction project for 2015-2019. Delegates discussed about some specifics of technical support for the project and on further construction plans during the office meeting.



Figure 4. Delegates at the construction site of the transport bridge over the Yessil River

Then, the delegates visited the construction sites of a transport bridge over the Yessil River, 113 LRT station, and a depot near the international airport. At the construction sites, the delegates were informed about current stages of the construction work.

On August 5th, 2018 the delegates went to a technical tour in Almaty, where they visited Chimbulak, Medeo stadium, the Kok-Tobe TV Tower and other unique construction projects in Almaty.

The second stage of the seminar was held at KazDORNII, JSC on August 6th, 2018. The delegates from Taiwan and Kazakhstan took part of this seminar. Prof. Bagdat Teltaev, President of KazDORNII JSC, a member of Kazakhstan Geotechnical Society, an Academician of NIA RK was the chairman of this joint event.

During the seminar, the main directions of activities of JSC KazDORNII in the construction of highways and bridge structures were presented. Furthermore, a technical tour was conducted in the highways materials testing laboratory, where the methods and equipment for testing road building materials used in the Republic of Kazakhstan were introduced.

Prof. Bagdat Teltayev and Prof. Keh-Jian Shou gave closing speeches at the closing ceremony of the second part of the seminar. They wished all the participants a success in civil engineering, science and education areas.

The organizing committee of the seminar expresses the deep gratitude to the delegates for their successful and fruitful works during the technical sessions of the seminar and to the sponsors who provided invaluable support to organize the above-mentioned seminar:

Conference report

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Kazakhstan Geotechnical Society, Kazakhstan
Chinese Taipei Geotechnical Society, Taiwan
TC 305 of the ISSMGE members
L.N. Gumilyov Eurasian National University, Kazakhstan
Delta Drilling Company, Belarus
Vremya LLP a Keller Company, Kazakhstan
MUNAIGAZKURYLYS, Kazakhstan
KazDorNII, Kazakhstan
LRT Construction, Kazakhstan
KaragandaGIIZ and K*, Kazakhstan
KazMRDI, Kazakhstan
GEOLAB, Kazakhstan
Mrs.Zhanat Shakirova, Kazakhstan



Figure 5. Group photo of the Second KGS-CTGS Geotechnical Seminar (Astana)

The Organizing Committee of the Second KGS-CTGS Geotechnical Seminar on TC305 of the ISSMGE