

Member society report

Report of the International Geotechnical Activities on EXPO-2017, Astana, Kazakhstan

The Kazakhstan Geotechnical Society is pleased to share the news on two events which were held on 20th - 21st June, 2017 in Astana, Kazakhstan and supported by the Kazakhstan Geotechnical Society, KGS, LLP and ISSMGE TC305 «Geotechnical infrastructures for megacities and new capitals».

1. The Roundtable discussion on «Innovation and Challenges in the Construction of the Ground and Foundations of Renewable Energy Facilities» within the World Scientific and Engineering Congress (WSEC-2017) «Energy of the future: innovative scenarios and methods of their implementation» (Astana, Kazakhstan)

The World Scientific and Engineering Congress (WSEC-2017) «Energy of the future: innovative scenarios and methods of their implementation» started on 19-20 June, 2017 in Astana, Kazakhstan. The congress attracted more than 1,000 participants from 51 countries, including four Nobel Prize Laureates and eight Global Energy Award winners.

This important event included a Roundtable discussion on «Innovation and Challenges in the Construction of the Ground and Foundations of Renewable Energy Facilities» which was held on June 20, 2017 at the EXPO-2017 Congress Center in Astana. The Roundtable discussion WSEC-2017 provided an ideal academic platform for researchers to present the latest research findings and describe emerging technologies, and directions in geotechnical issues.

At the opening ceremony Prof. Askar Zhussupbekov as chairman of the Roundtable discussion on «Innovation and Challenges in the Construction of the Grounds and Foundations of Renewable Energy Facilities» noted the great importance of such a scientific event for Kazakhstan and for the world.



Photo 1. Participants of the Roundtable discussion on «Innovation and Challenges in the Construction of the Ground and Foundations of Renewable Energy Facilities» within the World Scientific and Engineering Congress (WSEC-2017)

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The Roundtable discussion brought together leading academic scientists and researchers from Asia and Europe. The future energy for heating and cooling, geomechanical challenges associated with modeling and analyzing renewable energy facilities, wind and geothermal energy was discussed during the roundtable discussion.

Prof. Rolf Katzenbach (Director of the Energy Center of Technical University of Darmstadt, Germany) as a keynote lecturer reported about the developed solutions for the storage of future energy for heating and cooling.



Photo 2. Awarding ceremony of keynote lecturer Prof. Rolf Katzenbach (Technical University of Darmstadt, Germany) (From left to right: Prof. Akira Hasegawa, Prof. Rolf Katzenbach and Prof. Askar Zhussupbekov)

Also Prof. Heinz Brandl (Vienna University of Technology, Austria) on «Thermo active ground source structures as renewable energy facilities», Prof. Akira Hasegawa (Hachinohe Institute of Technology, Japan) on «Hachinohe geotechnical information system for construction of the ground and foundations», Prof. Ayfer Erken (Istanbul Technical University, Turkey) on «Seismic evaluation of energy structures», Prof. Victor Kaliakin (University of Delaware, USA) on «Geomechanical challenges associated with modeling and analyzing renewable energy facilities», Prof. Eun Chul Shin (Incheon National University, Republic of Korea) on «Eco-friendly green campus projects at Incheon national university», Prof. Der-Wen Chang (Tamkang University, Taiwan) on «Renewables and prospects of wind and geothermal energy in Taiwan», Prof. Askar Zhussupbekov (L.N. Gumilyov Eurasian National University, Kazakhstan) on «Researches of vibrating influence of wind power tower to the foundation» presented their research paper and made a roundtable discussion to exchange and share their experiences and research results on all aspects of geotechnical and civil engineering.

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2. International Geotechnical Seminar on TC 305 «Geotechnical Infrastructure for Megacities and New Capitals» (Astana, Kazakhstan)

The Geotechnical Seminar TC 305 «Geotechnical Infrastructure for Megacities and New Capitals» was held as a satellite event the day after the Roundtable discussion on «Innovation and Challenges in the Construction of the Ground and Foundations of Renewable Energy Facilities» on June 21, 2017 at the L.N. Gumilyov Eurasian National University in Astana, Kazakhstan. Scientists, academic researchers, postgraduate and undergraduate students from Austria, Japan, Turkey, South Korea, Taiwan, the USA, Syria, Belarus and Kazakhstan participated in this event. Also the Extraordinary and Plenipotentiary Ambassador of Japan to the Republic of Kazakhstan, Ichiro Cavabata, and Extraordinary and Plenipotentiary Ambassador of Austria to the Republic of Kazakhstan, Dr. Gerhard Sailler, were invited as honorary guests.



Photo 3. Plenary session on the International geotechnical seminar on TC 305 of ISSMGE

During the seminar scientific reports were presented by Prof. Heinz Brandl (Austrian Society of Engineers and Architects, Austria) on «Near-surface geothermal systems for megacities and new capitals», Prof. Akira Hasegawa (Japanese Geotechnical Society, Japan) on «Important geotechnical information given by the old map - in the case of Hachinohe», Prof. Ayfer Erken (Turkish National Committee for ISSMGE, Turkey) on «Urban deep excavation and its interaction with adjacent subway tunnel», Prof. Eun Chul Shin (Korean Geotechnical Society, Republic of Korea) on «Stability analysis of geocell reinforced slope during rainfall», Prof. Der-Wen Chang (Chinese Taipei Geotechnical Society, Taiwan) on «Simplified analysis on seismic responses of pile raft foundation and prospects in PBS», Prof. Victor Kaliakin (Geo-Institute of ASCE, USA) on «Some robust geosynthetics methodologies for use in the geotechnical infrastructure», Prof. Talal Awwad (Order of Syrian Engineers and Architects, Syria) on «An investigation of the effect of the soil on existing tunnels», Prof. Askar Zhussupbekov (Kazakhstan Geotechnical Society, Kazakhstan) on «The applications of pile in the construction site of the new railway station and light railway transport in Astana, Kazakhstan» and PhD Student Tatiana Tronda (Belarusian Geotechnical Society, Belarus) on «Ground Improvement by Dry Concrete Columns in Minsk, Belarus».

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Among all the participants it is important to give special mention to some of the lecturers, such as Prof. Eun Chul Shin, Prof. Akira Hasegawa, Prof. Ayfer Erken and Prof. Der-Wen Chang who were interested to provide strengthening interaction between foreign and Kazakhstan specialists in the field of geotechnics, to promote the exchange of experience and to find ways for future cooperation on education and science.

At this seminar the cooperation agreement between L.N. Gumilyov Eurasian National University (ENU) and Hachinoche Institute of Technology (HIT) was signed by the L.N.Gumilyov ENU Rector, Prof. Yerlan Sydykov and President of HIT Prof. Akira Hasegawa.



Photo 4. Signing Ceremony of the Cooperation Agreement (MOU) between ENU and HIT



Photo 5. Awarding Ceremony of the L.N. Gumilyov ENU for Honorary Doctor Prof. Heinz Brandl

L.N. Gumilyov ENU Rector Prof. Yerlan Sydykov emphasized that this agreement will breathe new life into the firmly established relationships between the two universities and will bring this cooperation to a new level.

An important highlight of this workshop was the title award of Honorary Doctor of the L.N. Gumilyov ENU to the President of the Austrian Society of Engineers and Architects Prof. Heinz Brandl in recognition of his outstanding international achievements and manifold cooperation in geotechnical engineering.

In conclusion of this event on behalf of the board of TC 305 «Geotechnical Infrastructure of Megacities and New Capitals» the President of the Kazakhstan Geotechnical Society Prof. Askar Zhussupbekov expressed his deep gratitude to all the participants and members of the Organizing Committee for their great efforts and contribution. First Vice-Rector of L.N.Gumilyov ENU Prof. Assemgul Moldazhanova invited all participants to visit the EXPO 2017 exhibition site and the laboratory for civil and geotechnical engineering “ENU-Lab”.

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Photo 6. Group photo of foreign participants and members of Kazakhstan geotechnical society

The successful seminar was followed by a technical tour to the Expo 2017 site. The theme for the Expo 2017 was "Future Energy". 115 states and 22 international organizations confirmed their participation in EXPO 2017 in Astana. At the EXPO-2017, seminar's participants visited the Pavilions of the Republic of Kazakhstan and exhibiting countries where they familiarized themselves with the advanced renewable technology and materials.

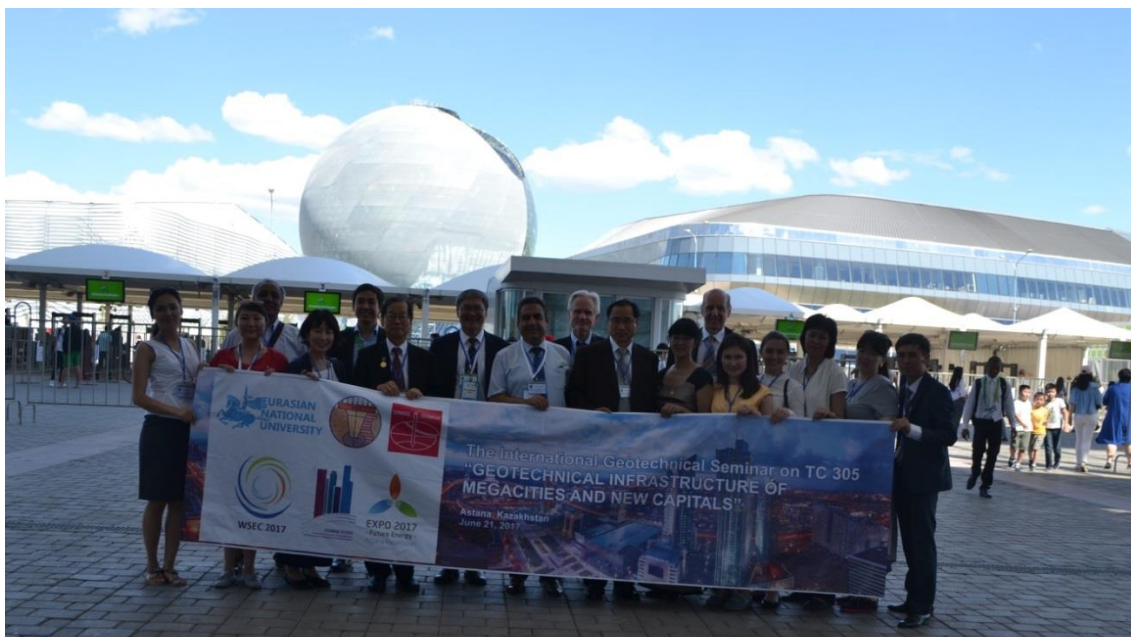


Photo 7. Participants of International geotechnical seminar on TC 305 at the Expo 2017, Astana, Kazakhstan

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After visiting the EXPO 2017 site the Seminar's participants visited the laboratory "ENU-Lab" of L.N. Gumilyov ENU. During the tour a Director of ENU-Lab, Dr. Rauan Lukpanov presented to the guests a perspective plan of the laboratory and introduced some new test apparatus.



Photo 8. Participants of International geotechnical seminar on TC 305 at the ENU-Lab