

# **ISSMGE** Bulletin

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## Message from member societies Cooperation between Polish and Kazakhstan Geotechnical Societies

Members of the Polish Geotechnical Society, representing the Faculty of Building Services, Hydro and Environmental Engineering of Warsaw University of Technology (WUT), visited Kazakh collogues, geotechnical engineers from Nur-Sultan and Almaty in Kazakhstan from 22<sup>nd</sup> to 29<sup>th</sup> November 2021. The Polish delegation was represented by the Dean of Faculty of Building Services, Hydro and Environmental Engineering of WUT, Prof. Paweł Popielski and the President of the Faculty Council of Doctoral Students, MSc Eng Bartosz Bednarz. The group was accompanied by Dr Agnieszka Dąbska, who is currently doing a 3-month internship at the L.N. Gumilyov Eurasian National University (ENU) in Nur-Sultan.

The first point of visit was the ENU, where the Polish delegates took part in the meeting on 23<sup>rd</sup> Nov 2021 (Fig. 1). The ENU was represented by the Member of the Management Board-Vice-Rector for Academic Affairs, Yerkin Ongarbayev, the Member of the Board-Vice-Rector for Science, Commercialization and Internationalization, Gulnara Merzadinova, the Dean of the Faculty of Architecture and Construction, Temirkhan Tolkynbaev, the Head of the Department of Design of Buildings and Structures, Zhanbolat Shakhmov, the President of Kazakhstan Geotechnical Society, Prof. Askar Zhussupbekov.



Fig. 1. The participants of the meeting at the ENU

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A ceremony of signing a Memorandum of understanding between WUT and ENU took place during the meeting. The importance of signing the memorandum was underlined by the presence of the Ambassador Extraordinary and Plenipotentiary of the Republic of Poland to the Republic of Kazakhstan, Mr Selim Chazbijewicz (Fig. 2). The monographs on the 100<sup>th</sup> anniversary of the Faculty of Building Services, Hydro and Environmental Engineering of WUT were handed over to the university authorities and Ambassador Extraordinary and Plenipotentiary of the Republic of Poland to the Republic of Kazakhstan.



Fig. 2. The ceremony of signing a Memorandum of understanding between WUT and ENU

Following the ceremony of signing a Memorandum of understanding, the Kazakh-Polish Geotechnical Seminar on TC 305 (ISSMGE) "Geotechnical Infrastructure for Megacities and New Capitals", organized by Kazakhstan Geotechnical Society, the Faculty of Architecture and Civil Engineering and the ENU Geotechnical Institute, was held (Fig. 3). There were three lectures given by Polish geoengineers and five by Kazakh geotechnical engineers. They discussed the following topics on the seminar: issues of assessment and design of hydraulic structures and deep foundations based on interdisciplinary research and numerical modelling, filtration strength of sands, monitoring of the large-diameter sewers structure using, zoning of the construction area in the Republic of Kazakhstan by the method of introducing geoinformation databases, operational tests, optical deformation cable within the framework of geomonitoring of the basement slab of the Abu Dhabi Plaza project in the city of Nur-Sultan (Kazakhstan).



Fig. 3 The Kazakh-Polish Geotechnical Seminar on TC 305 (ISSMGE) "Geotechnical Infrastructure for Megacities and New Capitals"

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On 24<sup>th</sup> Nov 2021, the Polish geotechnical engineers took part in the technical tour in the Nur-Sultan. They visited a zone of the post-exhibition heritage of EXPO 2017 and NUR ALEM Future Energy Museum (Fig. 4). Kazakh hosts also invited them to the office of the KGS-Astana Limited Liability Partnership (LLP) and the KGS-Astana construction side on Multifunctional Complex "Diamond" on the territory of EXPO-2017 (Fig. 5), where they had an opportunity to show the piles driving activity.



Fig. 4. Prof. Pawel Popielski (left) and Dr Agnieszka Dąbska (right) at in zone of the post-exhibition heritage of EXPO 2017



Fig. 5. The delegation from the WUT at KGS-Astana construction side

The Polish geotechnical engineers participated in the second part of the International Geotechnical Seminar on TC 305 (ISSMGE) "Geotechnical Infrastructure for Megacities and New Capitals", organized by Kazakhstan Highway Research Institute (KazDorNII) in Almaty on 25<sup>th</sup> Nov 2021. The Kazakh geoengineers were represented by the Corresponding Member of the National Academy of Sciences of the Republic of Kazakhstan, Doctor of Technical Sciences, Professor Bagdat Teltayev, Vice-President of KazDorNII, PhD Eng Yerbol Aitbayev and other representatives of KazDorNII. The co-moderator of the Seminar was the President of the Kazakhstan Geotechnical Society, Chair of TC305 (ISSMGE), Director of the Geotechnical Institute of the ENU, Doctor of Technical Sciences, Prof. Askar Zhussupbekov. The participants discussed the issues of assessment, design and monitoring of hydraulic structures, deep foundations, highways, and large-diameter sewer collectors based on interdisciplinary research and numerical modelling under conditions of the loss of soil resistance due to seepage risk during the Seminar. As part of the meeting, a technical tour of the testing laboratories of KazdorNII was organized for the seminar participants. The guests got acquainted with the material and technical base of the institute.



Fig. 6. Participants of the technical tour on the Medeu Mudflow Control Dam crest

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The seminar participants visited the Medeu Mudflow Control Dam near the ski resort Chimbulak in the upper part of the Medeu Valley in the Zailiisky Alatau mountain range in the framework of a technical tour organized by KazDorNII (Fig. 6). The Medeu Mudflow Control Dam was designed to protect Almaty from devastating mud and debris flows. The 110-meter high dam was created with the help of directional explosions in 1966-1967 by a series of explosions for the first time in world practice.

On 26<sup>th</sup> Nov 2021, the group of delegates were hosted by the Kazakh Leading Academy of Architecture and Civil Engineering (KazGASA) represented by the Rector of KazGASA, Professor Margarita Imandosova and the Dean of the Faculty of General Construction, Professor Raikhan Imambayeva. They discussed with the Dean of Faculty of Building Services, Hydro and Environmental Engineering of WUT, Professor Paweł Popielski, the opportunities of cooperation during the meeting (Fig. 7), and Polish delegates visited the technical laboratories of KazGASA, equipped with many unique stands and models (Fig. 8). The scientific group of the WUT found a common ground of scientific interests in hydro and geotechnical engineering issues with KazGASA staff. The scientific schools agreed to work on the Memorandum of cooperation.



Fig. 7. Participants of the meeting at the KazGASA



Fig. 8. Visit at the geotechnical engineering laboratory of KazGASA

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The delegates took part in the technical tour to Charyn Canyon on the Sharyn River in the Sharyn National Park of Kazakhstan on 27<sup>th</sup> November 2021 (Fig. 9). They could admire the geological peculiar relief forms of sedimentary red sandstone formed under the influence of water and wind erosion.



Fig. 9. The technical tour to Charyn Canyon (Kazakhstan)

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