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TC207 ISSMGE «Soil-
Structure Interaction
and Retaining Walls»
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Escuela Técnica
Superior de Ingenieros
de Caminos, Canales y
Puertos. Universidad
Politécnica
de Madrid (ETSICCP),
España, Madrid



Universidad
Politécnica de
Madrid (UPM),
España,
Madrid

The Russian-Spanish Conference on Geotechnical Engineering and Architecture

The First Betancourt Conference

“UNDERGROUND SPACE DEVELOPMENT AS A MEANS OF PRESERVATION OF HISTORICAL ENVIRONMENT”

June 6–7, 2019, St. Petersburg, the House of Architect

Augustin de Betancourt is an outstanding engineer, a founder of the Russian engineering school, the first head of St. Petersburg and Russian Agency for Architecture and Civil Engineering (The Commission of Construction and Hydraulic Works).

The Union of Architects of St. Petersburg, Technical Committee 207 ISSMGE and the Institute “Georeconstruction” invite all the concerned experts to the Scientific and Technical Conference devoted to this prominent offspring of Spain and the Russian citizen.

The format of lectures implies presentations of the leading specialists in the field of architecture and civil engineering.

The first Betancourt Conference is dedicated to the topic, which is crucial for St. Petersburg, - underground space development, it is to be considered in terms of its possible potential for preservation of historical environment of different cities.

Organizers

- The Union of Architects of St. Petersburg
- Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos. Universidad Politécnica de Madrid (ETSICCP), España, Madrid
- Russian Society for Soil Mechanics, Geotechnics and Foundation Engineering
- TC 207 “Soil-Structure Interaction and Retaining Walls” ISSMGE
- the Institute “Georeconstruction”, St. Petersburg

The dates and venue of the Conference

June 6–7, 2019, St. Petersburg, the House of Architect
Address: 52, Bolshaya Morskaya str.

June 6, 2019 8:30 – 9:30 Registration

9:30 *The Conference opening*

Introduction: the topic of the First Betancourt Conference – A.G. Shashkin, co-chairman of the Organizing Committee

10:00 - Greetings from O.S. Romanov, the President of the Union of Architects of St. Petersburg

Greetings from V.A. Grigoriev, the Chief Architect of St. Petersburg

Greetings from Felix Valdes, the council general of the Kingdom of Spain in St. Petersburg

THE FIRST SESSION 10:30 – 14:00 Moderator – A.G. Shashkin, DSc, Geol.-Min.

10:30 – 11:00 *Augustin de Betancourt* – the head of the Commission of Construction and Hydraulic Works

Vladimir M. Ulitsky, DrS.Tech., professor, Emperor Alexander I St. Petersburg State Transport University, Laureate of the Russian State Award in the field of science and technics, St. Petersburg

11:00 – 11:30 *Alexei G. Shashkin*, DrS. Geol.-Mineral., PI “Georeconstruction”, St. Petersburg
The results of underground space development in St. Petersburg: problems and achievements

11:30 – 12:00 *Ksenia A. Sharlygina*, PhD, Arch., LenzhilNIIproyekt

The prospects of city-planning activity in the historical center.

Presentation of the book devoted to the experience of reconstruction and renovation of historical buildings in St. Petersburg in the second half of the XX century.

12:00 – 12:30 *Igor V. Kolybin*, PhD, Tech., director of N.M.Gersevanov Research Institute of Soils and Underground Structures, Moscow (*the leading expert of Moscow in the field of geotechnics*)

Problematic situations at underground construction in urban areas

12:30 – 13:00 *Vyacheslav A. Il'ychev*, DrS.Tech., professor, Vice-President of the Russian Academy of Architectural and Construction Science, the President of the Russian Society for Soil Mechanics, Geotechnics and Foundation Engineering, Moscow

The Bolshoi Theatre: the development of underground space of the architectural monument to modernize the theatrical function and technology

13:00 – 13:30 **Underground Road Heritage of Madrid: water voyage**

Ignacio Menendez Pidal. Prof. Dr. Civil Engineer. Department of Land Engineering. School of Civil Engineers, Canals and Ports. Polytechnic University of Madrid.

Underground Hydraulic Heritage of Madrid. Viajes de Agua.

13:30 – 14:00 *Vladimir N. Paramonov*, DrS.Tech., professor, Emperor Alexander I St. Petersburg State Transport University, St. Petersburg,

Vladislav A. Vasenin, PhD, Tech., PI “Georeconstruction”, St. Petersburg

Igor I. Sakharov, DrS.Tech., professor, St. Petersburg State University of Architecture and Civil Engineering, St. Petersburg

Mutual influence of city buildings and metro facilities

14:00 – 14:45 COFFEE BREAK

THE SECOND SESSION 14:45 – 18:15 Moderator – *Igor V. Kolybin*, PhD, Tech.

14:45 – 15:15 *Rostislav O. Petrov*, PhD, Tech., the Committee for the State Preservation of Historical and Cultural Monuments, St. Petersburg

The features of underground space development in the conditions of historical buildings of St. Petersburg

15:15 – 15:45 *Oleg A. Shulyatiev*, PhD, Tech., N.M.Gersevanov Research Institute of Soils and Underground Structures, Moscow

Olga A. Mozgacheva, N.M.Gersevanov Research Institute of Soils and Underground Structures, Moscow

Reconstruction of buildings and structures of the Pushkin State Museum of Fine Arts in Moscow

15:45 – 16:15 *David Sanz-Arauz*. Associated Professor Department of Construction and Architectural Technology. ETS Architecture Universidad Politecnica de Madrid Julian García Muñoz. Associated Professor ETS Building Politecnica University of Madrid.

Eduardo Torroja's stadium tram station

16:15 – 16:45 *Rashid A. Mangushev*, DrS.Tech., professor

Anatoly I. Osokin, PhD, Tech., docent, St. Petersburg State University of Architecture and Civil Engineering, St. Petersburg

The prospects of construction of underground parking in the conditions of congested urban areas of the historical center of St. Petersburg

16:45 – 17:15 *R.E. Dashko*, DSc., Geol.-Min., professor, St. Petersburg Mining University,

D.Yu. Vlasov, DSc., Biol., professor, St. Petersburg State University

Scientific-practical principles of studying microorganism activity in the underground space of St. Petersburg during its development and use.

17:15 – 17:30 *Christofor A. Dzhanimirov*, PhD, Tech., N.M.Gersevanov Research Institute of Soils and Underground Structures, Moscow

The use of underground space in water areas of megacities as a means of protection of historical buildings

17:30 – 17:45 *I.A. Gus'kov*, *P.A. Yavlyayev*, «GEOINZGSERVUCE», Fugro companies group

Modern engineering-geotechnical investigations at underground space development

THE BOOK PRESENTATION

17:45 – 18:15 *Evgeniy M. Pashkin*, DSc, Geol.-Min., professor of Ordzhonikidze Russian State Geological-Prospecting University

Presentation of a new edition of the book “Engineering-geological diagnostics of architectural monuments”

18:15 – 19:00 DISCUSSION

19:00 – 20:00 GALA BUFFET

June 7, 2019, 10:00 – 15:00

MASTER-CLASSES

10:00 – 11:30 *Victor G. Fedorovsky*, PhD, Tech., N.M.Gersevanov Research Institute of Soils and Underground Structures, Moscow

Soil-structure settlement calculation:

- *Methods of defining a deformation modulus;*
- *Soil creeping;*
- *Characteristics of soil deformability based on in situ measurement data.*

11:30 – 13:00 *Alexei G. Shashkin*, DrS. Geol.-Mineral., PI “Georeconstruction”, St. Petersburg
The basics of geotechnical monitoring at underground space development in the conditions of urban construction

June 7, 2019, 15:00 – 18:00

TECHNICAL TOUR

(meeting at the entrance of the House of Architect)

Visiting the ensemble “New Holland”, which is now is the site of geotechnical works to adapt the ensemble to modern use.

Distance participation of Spanish experts (presentations are given as publications)

1. *One hundred years of metropolitan underground railway in Madrid. A new perception of the metropolis: the journey without spatial references*
Susana Olivares Abengozar. Doctora arquitecta en Conservación y Restauración del Patrimonio Arquitectónico por la ETSAM. Asesor experto en trabajos de análisis historiográfico para Metro de Madrid.

2. *Actions to improve the accessibility of the Recoletos Urban Station (Madrid)*
Ruben Angel Galindo Aires, Prof. Dr. Ing. de Caminos, Canales y Puertos. Dpto. de Ingeniería y Morfología del Terreno. Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos. Universidad Politécnica de Madrid.
3. *Evolution of the production of Aggregates in Madrid (1995-2016): The NIMBY effect and the relocation of the quarries from highly to poorly populated areas..*
Jose Ignacio Escavy Fernández, Prof. Dr. Geologo. Dpto. de Ingeniería y Morfología del Terreno. Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos. Universidad Politécnica de Madrid.
Laura Trigos
Dpto. de Ingeniería y Morfología del Terreno. Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos. Universidad Politécnica de Madrid.
Eugenio Sanz
Prof. Dr. Geologo. Dpto. de Ingeniería y Morfología del Terreno. Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos. Universidad Politécnica de Madrid. María J. Herrero
Departamento de Mineralogía y Petrología, Facultad de Ciencias Geológicas, Universidad Complutense de Madrid.
4. *Underground Road Heritage of Madrid: the M-30 and other tunnels*
Manuel Romana García, Prof. Dr. Ing. De Caminos, Canales y Puertos. Dpto. de Ingeniería Civil: Transporte y Territorio. Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos. Universidad Politécnica de Madrid.
Ignacio Menendez Pidal. Prof. Dr. Ingeniero de Caminos. Departamento de Ingeniería del Terreno. Escuela de Ingenieros de Caminos, Canales y Puertos. Universidad Politécnica de Madrid.
5. *Palaeontological Heritage of Madrid and School of Engineers of Roads, Channels and Ports of Madrid.*
Eugenio Sanz Pérez, Prof. Dr. Geologo. Dpto. de Ingeniería y Morfología del Terreno. Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos. Universidad Politécnica de Madrid.

ORGANISING COMMITTEE

O.S. Romanov, PhD of Architecture, Honored Architect of the Russian Federation, President of the Union of Architects of St.Petersburg

A.G. Shashkin, DrS, Geol.-Min., Coordinator of St. Petersburg Commission for Soils, Foundations and Underground Structures

V.M. Ulitsky, DrS, Tech., Professor, Laureate of the State Award of the Russian Federation, Co-Chair of TC 207 "Soil-structure interaction" ISSMGE

M.B. Lisyuk, PhD, Tech., Chair of TC 207 "Soil-structure interaction" ISSMGE

Valentin Sobor, Member International Association for Bridge and Structural Engineering (IABSE), Zurich, Switzerland