

PIARC International Seminar

Resilience and Innovation in Earthworks

November 2nd – 4th, 2021, Virtual



Pile anchor landslide protection structure at the interchange in the area of the city of Sochi (© Rosasfalt)

Organized in cooperation by:

- World Road Association (PIARC)
- Federal Highway Agency (Russia)
- Russian Asphalt Pavement Association (Rosasfalt, Russia)

All times are Moscow Time

PIARC Program of International Seminars

PIARC (The World Road Association) is a non-political, non-profit organization whose mission comprises organizing international forums, disseminating best practice and promoting efficient tools for decision making in the road transport field.

As part of its work, since 1999 the Association manages the PIARC Program of International Seminars, which aims at strengthening its presence throughout the world, be more receptive to the needs of developing countries and countries with economies in transition and make results of the Association's work more widely known in those countries

Technical Committee 4.3: Earthworks and Earth Structures

The Earthworks committee wants to encourage and promote knowledge about geotechnical design and best practices in Earthworks and Earth Structures around the world. With the occurrence of major climate change, Earth Structures are the first affected by natural disasters with major impact on users and structures. Technical Committee 4.3 is engaged in a reflection to reduce these effects and to increase the Resilience Methodology for better management of Infrastructure.

Our members gather the best practices and promote their knowledge for dissemination inside our community thanks to our reports, manual and seminars.

Our works are on:

4.3.1. Increasing Resilience of Earth Structures against natural hazards

4.3.2. Techniques and Innovation in Earthworks

4.3.3. Earthworks Manual

Seminar Objectives

Resilience is a new term that can explain the adaptation of the road infrastructure to an external event. The challenges are to minimize the delays of shut down of the transport route and the cost of repairs and to increase security. This seminar is the first in the world to present this topic. The aim of this 3 to 4 day seminar is to present and discuss within the earthworks' community the state of the art and the developments of new methodologies to adapt to these new challenges.

With this mind, all the presentations that present case studies, lessons learned, design works and methodologies will be helpful to promote discussion and to share countermeasures improving our final TC4.3 reports and deliverables.

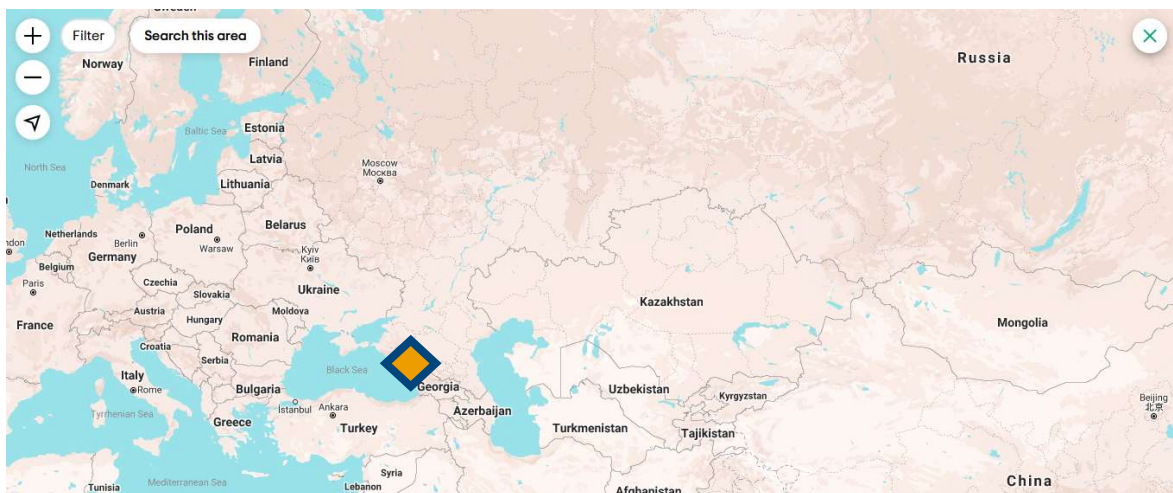
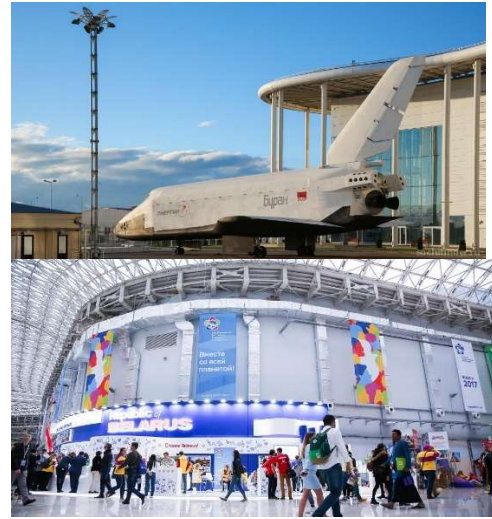
Who should attend?

The PIARC International Seminar on Earthworks and Earth Structures is intended for geotechnical and geological engineers, earthworks and road companies, stakeholders involved in management, risk management and design of structures, all members from other PIARC Technical Committees.

Seminar Organization and Dates

SOCHI is a well-known place for their famous Olympic Games held in 2014. The climate is one of the more pleasant near the Black Sea. The International Seminar was scheduled in SIRIUS, the most important Park of Science and Art Park, 10 minutes far for the Airport. Many hotel are available near the Park.

Initially scheduled from 12th to 15th October 2021, due to the Covid19 situation, the Seminar will be virtual, and postponed to **2nd to 4th November** with respect to Moscow times and Russian organization.



Format and Languages

The seminar will consist of various thematic sessions where the topics included in the preliminary program (see next pages) will be addressed. These sessions have been planned for three days. Each session will include several presentations by members of Technical Committee TC4.3 as well as by Russian experts and experts from other countries around the world. Several round tables for discussing the different topics covered in the presentations will be carried out.

Languages of the Seminar will be **Russian, English, Spanish and French** with simultaneous translation available.

Organizing Committee

Alexey Bunchik Patrick Boisson Aleksandra Cybulska Yasmina Boussafir	Responsible of the Seminar Chair of the Technical Committee 4.3 PIARC GS PIARC France
---	--

Scientific Committee

Alexey Bunchik Alexandra Ferreira Jason Hastings Enrico Mittiga Kamel Zaghouani Jerónimo Vicente Dueñas Yasmina Boussafir Natalia Perez Paul Nowak	Responsible of the Seminar Leader of WG Techniques and Innovation Leader of WG Techniques and Innovation PIARC Leader of WG Increasing Resilience Leader of WG Increasing Resilience Leader of WG Increasing Resilience French Speaking secretary Spanish Speaking secretary English Speaking secretary
--	---

Registration Fee

The PIARC International Seminar for Earthworks, Resilience and Innovation, will be free of charge for all participants.

Registration will be compulsory for the virtual meeting.

If you are interested in attending this PIARC International Seminar, please register through the following link : https://docs.google.com/forms/d/e/1FAIpQLSci1Hsa4l6ofPijgIzPhCwAhYIAC8K6o7zR-TyG6pIETB8H5A/viewform?usp=sf_link

Deadline October 28th, 2021

DEFINITIVE PROGRAMME

November 2 nd , 2021	
11h00-11h30 Moscow time	Introduction / Grand opening <ul style="list-style-type: none"> - Roman Novikov, Head of the Federal Road Agency of the Ministry of Transport of Russia - Patrick Malléjacq, General Secretary of PIARC - Patrick Boisson, TC4.3 Chairman (PIARC works)
11h30-13h00	SESSION 1: Climate change and Resilience in Earthworks (Chairman Alexey Bunchik, Russia) General presentations A possible definition for resilience, what can we learn from the literature review, Overview of natural Hazards all around the world and their impacts on Earth Structures : <ul style="list-style-type: none"> - Zheleznyak Mikhail (<i>Russian Academy of Sciences, Russia</i>) “Features of the operation of highways in the permafrost zone” (30’) - Enrico Mittiga (<i>Anas SpA – Gruppo FS Italiane, Italy</i>) « A possible definition of Resilience for Earth Structures » (20’) - Jerónimo Vicente Dueñas (<i>Ministry of transportation and mobility, Spain</i>) “ What can we learn from a literature review” (20’) - Jean-Pierre Magnan (<i>Gustave Eiffel University, France</i>) “ An overview of natural disasters around the world » (20’)
13h00 – 13h15	break
13h15 – 14h30	<i>(Continuation of Session 1)</i>
	<i>Presentation of 2 cases</i> <ul style="list-style-type: none"> - Voznesenskiy Evgenii (<i>Head of Russian Institute of geoecology</i>) “Use of Earth remote sensing data for the purposes of geotechnical monitoring of highways in the cryolithozone” (20’) - Valeria Licata (<i>Anas SpA – Gruppo FS Italiane, Italy</i>) “Seismic Resilience in Soil-Structure Interaction” (20’). Q&A session (35’) (Moderator Yasmina Boussafir, France)
14h30	End of First Day
November 3 rd , 2021	
11h00-12h30 Moscow time	SESSION 2 : Climate change and Resilience in Earthworks (Chairman Alexey Bunchik) Different case studies presentations <ul style="list-style-type: none"> - Sergey Maciy (<i>Russian Society for Soil Mechanics, Geotechnics and Foundation Engineering, Russia</i>) “High technologies of engineering protection of highways from dangerous engineering and geological processes.” (30’) - Alexandra Ferreira (<i>Ascendi, Portugal</i>) “ Rockfalls in Portugal ” (20’)

	<ul style="list-style-type: none"> - Kamel Zaghouni (<i>Terrasol, Tunisia</i>) “ Tunisia under an unexpected snowy event ” (20’) - Alexandra Ferreira & Jason Hastings (<i>DeIDOT, United States of America</i>) “Evaluation of the resilience of earth structure: a new tool to appreciate the vulnerability against natural hazards” (20’) – introduction for future the debate
12h30 – 12h45	break
12h45 – 14h30	<i>(Continuation of Session 2)</i>
	<ul style="list-style-type: none"> - Jaehoon Lee (<i>Dongil Engineering Consultants Co., South Korea</i>) “The 27 July 2011 debris flows at Umyeonsan” (20’) - Pierre Azemard (<i>Cerema, France</i>) “The case of the Coastal Road in La Réunion Island” (20’) - Dmitriy Medvedev (<i>Russia, Research Institute of Transport and Construction Complex</i>) “Geosynthetics in Russia” (20’) - Angella Lekea (<i>Uganda</i>) “Soil reinforcement with plants” (20’) <p>Q&A session (25’) (Moderator Yasmina Boussafir)</p>
14h30	End of Second Day
	November 4th, 2021
11h00-12h45	<p>SESSION 3 : Innovations and Techniques (Chairman Alexey Bunchik) An overview of the state of the art in Earthworks around the world - General presentations</p> <ul style="list-style-type: none"> - Zhuravlev Anton (<i>Russian Road Research Institute, Russia</i>), “Presentation of the russian catalogue of new systems and best technologies for Russian roads” (10’) - Jason Hastings & Alexandra Ferreira “General presentation of the case study report” (20’) - Patrick Boisson (<i>SPTF, France</i>) “Use of Lidar in Vinci company” (15’) <p>Q&A session (15’) (Moderator Patrick Boisson)</p> <ul style="list-style-type: none"> - Paul Nowak (<i>Atkins, England</i>) “Use of glass sand in earthworks ” (10’) - Jason Hastings (<i>DeIDOT, United-States</i>) “Columns Supported Embankment for Harlem River Bridge” (video) (10’) - Eduardo Fernandes (<i>ELSAMEX, Portugal</i>) & Monteiro Bernardo (<i>Portugese Institute of Roads, Portugal</i>) “Large embankment with steep slopes using soil-cement, in Marão, Portugal” (15’) <p>Q&A session (10’) (Moderator Patrick Boisson)</p>
12h45 – 13h00	break
13h00 – 14h20	Debate : two topics

	<p>1- How can we increase Resilience and what kind of tools to improve resilience :</p> <p>1.1- questions about the new tool to evaluate the vulnerability of earth structure in the frame of resilience and risk management</p> <p>2- What kind of Innovations in the future for Earthworks and Earth Structures?</p>
14h20 – 14h30	Conclusion (Patrick Boisson & Alexey Bunchik) End of the International Seminar