

## Program of the 2nd International Symposium on Transportation Soil Engineering in Cold Regions

September, 23–26, 2015, Siberian State University of Railway Engineering, Novosibirsk, Russia

September 23, Wednesday

<b>Timetable</b>	<b>Hotel «Azimut»</b>
<b>16:00 – 19:00</b>	<b>Registration of participants in the lobby of the hotel</b>

September 24, Thursday

Timetable	Chairs	Presenters	Affiliation	Topic
<b>Opening Ceremony, Assembly Hall</b>				
<b>9:00 – 9:15</b>	Tselko A.V. Manakov A.L. Isakov A.L. Liu Jankun	Dr. Alexey Manakov, <i>Chairman of Organizing Committee, Rector of STU</i>	Siberian State University of Railway Engineering, Novosibirsk, Russia	Addresses to TranSoilCold-2015
		Prof. Eun Chul Shin, <i>Dean of Urban Science College</i>	Incheon National University, Republic of Korea	Addresses to TranSoilCold-2015
		Dr. Anne-Lise Berggren, <i>Director General</i>	GEOFROST Engineering AS, Oslo, Norway	Addresses to TranSoilCold-2015
<b>Plenary session: «Railway subgrade in cold regions», Assembly Hall</b>				
<b>9:15 – 9:45</b>	Tselko A.V. Manakov A.L. Isakov A.L. Liu Jankun	Alexander Tselko, <i>Vice-President</i>	Joint Stock Company "Russian Railways"	Problems of Railway Operating in Cold Regions of Russia
<b>9:45 – 10:15</b>		Prof. Wei Ma, <i>Director General</i>	State Key Laboratory of Frozen Soil Engineering, Cold and Arid Regions Environmental and Engineering Research Institute of the CAS, Lanzhou, China	Thermal Interaction of Permafrost Engineering in Qinghai-Tibet Engineering Corridor
<b>10:15 – 10:45</b>		Prof. Evgeny Ashpiz,	Moscow State University of Railway	Detection Areas of Cryogenic Deformation of

		<i>Head of Department</i>	Engineering, Russia	Frost Heaving and Settlement of Track at the Railways
<b>10:45 – 11:15</b>		Prof. Satoshi Akagawa, <i>President</i>	Cryosphere Engineering Laboratory, Tokyo, Japan	Frost Heaving in Ballast Railway Tracks
<b>11:15 – 11:30</b>	<b>Coffee Break</b>			
<b>Plenary session: «Soil freezing-thawing under the pavements of roads and air runways», Assembly Hall</b>				
<b>11:30 – 12:00</b>	Prof. Ma Wei Prof. Shin Eun Chul	Prof. Daichao Sheng, <i>Head of Discipline</i>	Newcastle University, Australia	Frost Heave Damage to Airport Runways in Cold and Arid Regions - the Effects of Moisture Accumulation under Covered Areas
<b>12:00 – 12:30</b>		Prof. Askar Zhussupbekov, <i>Director of Geotechnical Institute</i>	Eurasian National University, Astana, Kazakhstan	The Experimental Investigations of Freezing Road Soils at Ground Conditions of Astana
<b>12:30 – 13:00</b>		Prof. Yuanming Lai, <i>Academician of CAS, Vice-President</i>	State Key Laboratory of Frozen Soil Engineering, Cold and Arid Regions Environmental and Engineering Research Institute of the CAS, Lanzhou, China	Thermodynamic Stability Analysis Methods and Damage Prevention Techniques of Roads in Cold Regions
<b>13:00 – 14:00</b>	<b>Photo in front of University, Lunch</b>			
<b>Plenary session: «Freezing-thawing of transportation soil», Assembly Hall</b>				
<b>14:00 – 14:30</b>	Prof. Zhussupbekov Askar Prof. Akagawa Satoshi	Prof. Eun Chul Shin, <i>Dean of Urban Science College</i>	Incheon National University, Republic of Korea	Field Application of Freezing Technology for Social Infra-Structures
<b>14:30 – 15:00</b>		Prof. Tuncer Edil, <i>Professor Emeritus</i>	University Wisconsin, Madison, USA	Freeze-Thaw Performance of Chemically Stabilized Natural and Recycled Highway Materials
<b>15:00 – 15:30</b>		Prof. Tadatsugu Tanaka, <i>President</i>	The Japan Association of Rural Recycling Solutions, Tokyo, Japan	Cyclic Behavior of Soils and Numerical Analyses in Cold Region and Seismic Zone
<b>15:30 – 16:00</b>		Dr. Anne-Lise Berggren,	GEOFROST Engineering AS, Oslo,	Artificial Ground Freezing – a Useful Tool for

		<i>Director General</i>	Norway	Difficult Ground Conditions
<b>16:00 – 16:15</b>	<b>Coffee Break</b>			
<b>16:15 – 17:30</b>	<b>«Thermo-Mechanical Modeling of Subgrade in Cold Regions», Assembly Hall</b>			
<b>16:15 – 16:30</b>	Prof. Ashpiz E.S. Prof. Sheng Daichao	<u>Prof. Kudryavtsev S.A.</u> Dr. Kazharsky A.V. Shvets Ya.A. Medvedev V.V.	Far East State University of Railway Engineering, Khabarovsk, Russia	Investigation of the Processes of Freezing and Thawing of the Subgrade Railways Reconstructed Portions of the Second Track of the Baikal-Amur Mainline on Permafrost Soils
<b>16:30 – 16:45</b>		<u>Prof. Isakov A.L.</u> Lavrova A.Yu.	Siberian State University of Railway Engineering, Novosibirsk, Russia	Accounting the Solar Radiation in Thermal Regime Prediction for Subgrade in Cold Regions
<b>16:45 – 17:00</b>		Dr. Li Xu	Beijing Jiaotong University, China	A Method Used to Determine the Upper Thermal Boundary of Subgrade Based on Boundary Layer Theory
<b>17:00 – 17:15</b>		Dr. Vavriniuk T.S. Dr. Fedorenko E.V.	JSC «MIAKOM Spb», Saint-Petersburg, Russia	Calculations of Thermal and Mechanical Interaction Between the Roadbed and Thawing Soil Base
<b>17:30</b>	<b>Cultural program</b>			

### September 25, Friday

Timetable	Chairs	Presenters	Affiliation	Topic
<b>9:00 – 11:00</b>	<b>Session A: «Methods of Stabilization of Subgrade in Cold Regions», Conference Hall, room No 226</b>			
<b>9:00 – 9:15</b>	Prof. Lutskiy S.Ya. Dr. Berggren A.-L.	<u>Prof. Kondratiev V.G.</u> Valiev N.A. Kondratiev S.V.	Transbaikal State University, Chita, Russia	Embankment of Roads on Ice Rich Permafrost: Problems and its Decision
<b>9:15 – 9:30</b>		Prof. Luo Qiang	Southwest Jiaotong University, Chengdu, China	Structural Analysis and Design of Frost Resistance Function for Subgrade of High-Speed Railway Ballasted Track in Cold Regions

9:30 – 9:45		Dr. Zhdanova S.M. <u>Prof. Piotrovich A.A.</u>	Far East State University of Railway Engineering, Khabarovsk, Russia	To the Issue of Permafrost Soil Roadbed Stabilization
9:45 – 10:00		<u>Sokovikh M.G.</u> Dr. Frolovsky Yu.K. Dr. Zaytsev A.A.	JSC Design and construction company "Geoprom", Moscow Moscow State University of Railway Engineering, Russia	Development of the Complex Technical Decisions for Stabilization of the Subgrade on the Section Sredneilimskaya – Korshuniha at East-Siberian Railway
10:00 – 10:15		Prof. Vereskun V.D. <u>Prof. Yavna V.A.</u>	Rostov State University of Railway Engineering, Rostov-on-Don, Russia	Geotechnical Methods of Reinforcement of Slopes Near Railroads
10:15 – 10:30		<u>Dr. Burukin A.Yu.</u> Prof. Lutskiy S.Ya. Khripkov K.N.	Moscow State University of Railway Engineering, Russia	In Depth Reinforcement of Soil at the Base of Roads on Taliks
10:30 – 10:45		Dr. Ivanov K.S. Korotkov E.A.	Institute of the Earth Cryosphere of the Siberian Branch of the RAS, Tyumen, Russia	New Road Constructions for Cold Regions with Heat-Insulating and Drainage Layers Made of Granular Thermal Insulation Material "DIATOMIK"
10:45 – 11:00		Yan Hongye Cui Yinghui	China Academy of Railway Sciences, Beijing, China	Experimental study on insulation on the high-speed rail in cold area
9:00 – 11:00	<b>Session B: « Climatic Features of the Soils Behavior in Cold Regions », Conference Hall, room No 224</b>			
9:00 – 9:15		Prof. Efimenko V.N. <u>Dr. Efimenko S.V.</u> Suhorukov A.V.	Tomsk State University of Architecture and Building, Tomsk, Russia	The Account of Features of Natural-Climatic Conditions in the Design of Roads in Western Siberia
9:15 – 9:30	Prof. Efimenko V.N. Prof. Aiping Tang	Dr. Li Guoyu	Cold and Arid Regions Environmental and Engineering Research Institute of the CAS, Lanzhou, China	Processes and Mechanisms of Multi-Collapse of Loess Roads in Seasonally Frozen Ground Regions: A review
9:30 – 9:45		Prof. Dalai Dashjamts Anand Batsaikhan <u>Enkhbaatar Dugersuren</u>	Mongolian University of Science and Technology, Ulaanbaatar, Mongolia Soil trade Company, Ulaanbaatar, Mongolia	Permafrost and Geotechnical Investigations in Nalaikh Depression of Mongolia

9:45 – 10:00		Tai Bowen, PhD Student	Beijing Jiaotong University, China	The Subgrade Ground Temperature Monitoring and Prediction of XPS Insulation Board of the Newly Constructed Gonghe-Yushu Highway in the Permafrost Region
10:00 – 10:15		Dr. Halimov O.Z.	JSC "Expertise of Properties" Abakan, Russia	System geotechnical consulting on the lifecycle of real estate on heaving soils
10:15 – 10:30		Dr. Chen Jianbing	CCCC First Highway Consultants Co., LTD, Xi'an, China	Study on the Scale Effect of Permafrost Embankment
10:30 – 10:45		Lei Guo	Cold and Arid Regions Environmental and Engineering Research Institute of the CAS, Lanzhou, China	Refreezing of cast-in-place piles under various engineering conditions
10:45 – 11:00		Dr. Haolin Yu Xinlei Na Prof. Zhaohui Joey Yang	University of Alaska, Anchorage, USA	<sup>*)</sup> Characterization of Frozen Soil-Cement Mixture for Berm Construction in Cold Regions
11:00 – 11:15	<b>Coffee Break</b>			
11:15 – 13:00	<b>Session A: «Diagnosis and Monitoring of Railway and Highway Subgrade in Cold Regions», Conference Hall, room No 226</b>			
11:15 – 11:30	Prof. Kondratiev V.G. B.Г. Prof. Xianchang LING	Prof. Lutskiy S.Ya. Prof. Shepitko T.V. Dr. Cherkasov A.M.	Moscow State University of Railway Engineering, Russia	Technological Monitoring of the Subgrade Construction on the High-Temperature Permafrost
11:30 – 11:45		Dr. Tian Yahu	Beijing Jiaotong University, China	Monitoring and Analysis of Deformation at Different Depths within Qinghai-Tibet Road
11:45 – 12:00		Dr. Zagitov E.D. Gavrilov I.I.	Centre ISSO of JSC “Russian railways”, Moscow, Russia	Thermometric Monitoring of Subgrade on Permafrost at the Eastern Network
12:00 – 12:15		Dashinimaev Z.B.	Trans-Baikal Railway, Chita, Russia	Diagnosis of Heaving and Methods of Protection of Railways from its Impact
12:15 – 12:30		Yang Yongpeng	Northwest Research Institute Co. Ltd. of China Railway Engineering Corporation, China	A System for Automated Monitoring of Embankment Deformation Along the Qinghai-Tibet Railway in Permafrost Regions

12:30 – 12:45		Gavrilov I.I.	Permafrost station of ISSO Center of JSC “Russian Railways”, Tynda, Russia	Experience in the Use of Remote Methods for the Diagnosis and Monitoring of Subgrade in the Permafrost
12:45 – 13:00		<u>Prof. Stoyanovich G.M.</u> Dr. Pupatenko V.V. Sukhobok Yu.A.	Far East State University of Railway Engineering, Khabarovsk, Russia	Detection of Ground Ice Using Ground Penetrating Radar Method during Railroad Reconstruction
11:15 – 13:00	<b>Session B: «Experimental Studies in Transportation Soil in Cold Regions», Conference Hall, room No 224</b>			
11:15 – 11:30	Prof. Edil Tuncer Prof. Tanaka Tadatsugu	Dr. Bondarenko G.I.	NIIOSP named after N.M. Gersevanov JSC Research Center of Constraction, Moscow, Russia	Slope Stability at Thawing Soil During the Construction of Railways in Cold Regions
11:30 – 11:45		Prof. Gökhan Baykal	Bogazici University, Istanbul, Turkey	Use of Fly Ash with no Water Consumption for Cold Regions Transportation Infrastructure
11:45 – 12:00		Dr. Alekseev A.G.	NIIOSP named after N.M. Gersevanov, Moscow, Russia	Research Heaving Soil Properties Beyond Retaining Walls
12:00 – 12:15		Prof. Jong-Sub Lee <u>Sang Yeob Kim</u>	Korea University, Seoul, Republic of Korea	Strength and Stiffness Variation of Frozen Soil according to Confinement during Freezing
12:15 – 12:30		Yu Qianmi	Beijing Jiaotong University, China	Experimental Study of Effects of Nonuniformly Distributive Fine Soil on Mechanical Properties of Shenyang-Dandong Railway Coarse-Grained Soil
12:30 – 12:45		Ms. Huang Xing	Cold and Arid Regions Environmental and Engineering Research Institute of the CAS, Lanzhou, China	Experimental Research on Acoustic Wave Velocity of Frozen Soils during the Uniaxial Loading Process
12:45 – 13:00		Liu Zhenya	Beijing Jiaotong University, China	Study on Different Types of semi-rigid base materials after Freeze-Thaw Cycles
13:00 – 14:00		<b>Lunch</b>		
14:00 – 15:30	<b>Session A: «Engineering aspects of frozen and thawed soils, Conference Hall, room No 226</b>			

14:00 – 14:15	Prof. Kudryavtsev S.A. Prof. Luo Qiang	Prof. Xianchang Ling	Harbin Institute of Technology, China	Artificial Buried Covered Excavation Technology for the Shallow Big Cross-Section Tunnel of High-Speed Railway Under Swelling Soil Field in High-Latitude Deep Seasonally Frozen Regions
14:15 – 14:30		Dr. Niu Yonghong	Cold and Arid Regions Environmental and Engineering Research Institute of the CAS, Lanzhou, China	Frost Heave Features of Harbin to Dalian Railway
14:30 – 14:45		Prof. Karaulov A.M. <u>Dr. Korolev K.V.</u>	Siberian State University of Railway Engineering, Novosibirsk, Russia	Bearing Capacity of Thawed Soil Bed of Foundation of Transport Structure
14:45 – 15:00		Dr. Yao Xiaoliang, Associate Prof.	Cold and Arid Regions Environmental and Engineering Research Institute of the CAS, Lanzhou, China	Evaluation on the Creep Model of Frozen Soils
15:00 – 15:15		Tian Shuang	Harbin Institute of Technology, China	Finite Element Analysis on Deformation of High Embankment in Heavy Haul Railway Subjected to Freeze-Thaw Cycles
15:15 – 15:30		Prof. Blazhko L.S. Prof. Shtykov V.I. Dr. Chernyaev E.V.	Petersburg State University of Railway Engineering, Saint-Petersburg, Russia	*) Features of Operating of Subsurface Drainage in Zone of Seasonal Freezing of Soils in Spring
14:00 – 15:30		<b>Session B: «Dynamics of Subgrade in Cold Regions», Conference Hall, room No 224</b>		
14:00 – 14:15	Fang Jianhong Prof. Lai Yuanming	Prof. Aiping Tang	Harbin Institute of Technology, China	Vibration Response Analysis of Frozen Soil Under Mobile Track Loads
14:15 – 14:30		<u>Prof. Stoyanovich G.M.</u> Dr. Pupatenko V.V.	Far East State University of Railway Engineering, Khabarovsk, Russia	On the Propagation of the Vibrations in Railway Subgrade by the Thawing of Seasonably Deep Frozen Soils
14:30 – 14:45		Dr. Petryaev A.V.	Petersburg State University of Railway Engineering, Saint-Petersburg, Russia	The Stress State of the Thawed Soil Subgrade

14:45 – 15:00		<u>Dr. Ayşe Edinçliler</u> Ozgur Yildiz	Bogazici University, Istanbul, Turkey	Seismic Behavior of Tire Waste-Sand Mixtures for Transportation Infrastructures
15:00 – 15:15		Ms. ZhaoYingying	Harbin Institute of Technology, China	Test on Dynamic Characteristics of Subgrade of Heavy-Haul Railway in Cold Regions
15:15 – 15:30		Dr. Kvashnin M.Ya. <u>Prof. Kosenko S.A.</u> Kvashnin N.M. Bondar I.S.	Kazakh Academy of Transport and Communications named after M. Tynyshpayev, Almaty, Kazakhstan Siberian State University of Railway Engineering, Novosibirsk, Russia JSC «EXPERT», Moscow, Russia	Experimental Studies of the Impact of Vibrodynamic Moving Load on the Main Platform in cold Regions
15:30 – 15:45	<b>Coffee Break</b>			
	<b>Session A: Discussions and Suggestions, Conference Hall, room No 226</b>			
15:45 – 17:30				
	<b>Session B: Discussions and Suggestions, Conference Hall, room No 224</b>			
15:45 – 17:30				
18:30 – 21:30	<b>Summarizing. Farewell Dinner</b>			

**September 25, Saturday**

12:00 – 18:00	<b>Ob sea cruise with a buffet table</b>
19:00	<b>Free time</b>