

# MAGLEV 2018

The 24th International Conference  
together with MTST'18

## Programme



September 5-8, 2018

Emperor Alexander I St. Petersburg  
State Transport University, Russia

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in cooperation with



ПАРТНЕР



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# PROGRAMME

## The 24<sup>th</sup> International Conference **MAGLEV 2018**

together with

## **MTST'18** & The International Maglev Board

St. Petersburg  
2018

# MAGLEV 2018

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## **The Role of First Persons of the Russian State in Technical Revolution on Transport**

When discussing transport problems one would ask the question as to when Russia will have magnetic levitation lines. Here is my answer: when the country will find it impossible to live without them. Let us recall the national history of successful and unsuccessful technical transport revolutions.

In the vast territory of Russia, the animal-powered transport used to dominate. In 1830s, the ground transportation was occupied by approximately 800 thousand people in summer and 3 million people in winter.

Peter I drastically changed the transport policy of the Empire to the benefit of waterways. However, the expanding urban population and booming industry could not be satisfied by low speed and insufficient amount of transported goods. By the country's best road between Moscow and Saint Petersburg the Emperor, who liked travelling fast, covered this distance for three days. It would take two water seasons for provision from the Volga area governorates to "travel" to the capital.

The first technical revolution in Russia, including the construction of Saint Petersburg – Moscow Railway Line, was determined by two key circumstances:

- transport of that time was becoming the major brake on the Empire's economy and trade development;
- the state officials failed to understand the role of transport for the Empire's development, the government was against the construction of railways.

By forceful decision of Emperor Nicholas I, his famous resolution "So be it" put down in the railway layout, the mechanism of transport revolution was started. The decision of the Emperor was brilliantly fulfilled by Russian engineers headed by the Institute of the Transport Engineers Corps' alumnus Pavel Melnikov. It needs to be underlined that the engineers who made it possible to create the best railway track of the time were the alumni of one and the same Institute: of 72 specialists, there was only one American consultant. In the world hierarchy, Russia took the sixth place among the world technically initiated countries.

Another round of revolutionary progress was connected with the construction of the Trans-Siberian Railway. Again, the decision was made by the Emperor's will, this time Alexander III, when the threat to lose Siberia and the Far East became vivid. Prince Mikhail Khilkov, the Minister of Communications of the Russian Empire (1895–1905), who worked his way up from metalworker, stoker, motorman, builder and manager of a number of railways in Russia, thoroughly new his job and brilliantly coped with this most complicated task.

After taking power, the Bolsheviks made preparations for the country's transition to another technological level – the GOELRO plan, or the State Commission for Electrification of Russia. Special attention in the plan was paid to technical revolution on transport: transition to new types of traction, electrification of 5 thousand kilometres of the most complicated railway sections. Unfortunately, the plan was not completed within the scheduled period, with one of the reasons being the position of the Minister of



Communications Lazar Kaganovich<sup>1</sup> saying “We will ride to Communism on locomotives!”. This time technical revolution did not succeed.

By mid 1950s, the USSR railway transport “ate” half of the extracted coal. It all was coming to a situation when millions of people in hazardous and dangerous industries would have had to work for locomotive furnaces with less than five per cent efficiency. In 1955, the government adopted a 20-year-old railway modernisation plan, the main part of which was transition to electric and diesel traction. Supervised by the Minister of Communications of the USSR Boris Beshchev<sup>2</sup>, the plan was brilliantly implemented. The railways in the USSR became the most efficient ones. Owing to intelligence, expertise, and will of the national scientists, engineers and workers, the technical revolution on “top” finally took place, preventing stagnation and lagging behind the world progress<sup>3</sup>.

By mid 1960s, the most developed countries entered the competition for increase of speed on the most sought after mode of ground transportation – the railway transport. Approximately at the same time, Russia, Germany, France, and Japan were creating rolling stock (locomotives, carriages) capable of travelling at 200 km/h and higher. At the edge of 1980-90s, the country’s administration adopted a plan which included construction of high-speed mainlines Leningrad–Moscow and Moscow–Krasnodar–Sochi, Simferopol. It was also envisaged that magnetic levitation passenger lines should also be constructed as absolutely ecologically clean mode of transport for urban areas. Let me remind you that on launching the railway line between Moscow and Saint Petersburg in 1851, Russia was the sixth country in the world at the cutting edge of the technological progress. In 1980s, we could have been among the three countries having innovative technologies for high-speed and magnetic levitation transport.

Today, 26 countries are operating high-speed railway, three countries have mastered commercial operation of magnetic levitation. Russia has neither. This tremendous lagging behind is explained by the biggest social catastrophe of XX century – the dissolution of the USSR. During transition from Socialism to Capitalism, neither an innovator state leader nor a stoker minister was available to make another technical revolution on transport possible since their places had been taken by those managing financial flows.

Now again, we are coming to a moment when the technical revolution should be made on “top”. Let us just think about these data:

- every year, one million tonnes of rail lines are discarded to scrapyards;
- every year, the industry has to supply on million tonnes of railway wheels;
- there is a shortage of machine tools for facing of damaged and worn rolling surfaces of railway wheels in workshops.

<sup>1</sup> Lazar Kaganovich – prominent politician and statesman, was People’s Commissar for Communications of the USSR (1935–1937; 1938–1942).

<sup>2</sup> Boris Beshchev – Leningrad Institute of Railway Engineers (LIIZT, now PGUPS), successor of the best traditions of the Institute of the Transport Engineers Corps, Minister of Communications (1948–1977).

<sup>3</sup> In 1920–30s, the scientists, engineers and workers designed and brought to manufacture stage the home-grown electric locomotives, electric trains and power supply systems. The practice of using them in pre-war and post-war time on Kirov Railway (the Murmanka railway) proved reliability of the transport in the conditions of severe climate of the Arctic region, complicated profile on routes Kandalaksha-Kirovsk and Kandalaksha-Murmansk.

The problems are increasing together with the number of bottlenecks caused by wear of artificial structures and railway track subgrades (collapse and pollution of railway track). In these conditions, counting on wheel-rail technology, which has already exhausted itself, when constructing high-speed lines, would prove economically and environmentally inefficient. There is just no point in counting on it. There is the way to solve all this – to establish transport corridors “East-West” and “North-South” in the territory of Russia by virtue of magnetic levitation technology with traction linear motor.

Please note that this technology does not require any rails, wheels or clumsy catenary, and service during the life cycle. Russia has got all chances to take charge of the world technical revolution to create ecologically immaculate general intercontinental high-speed ground transport system. For business and investors, the unprecedented opportunities are being opened to obtain surplus income in the growing transportation market.

**Anatoly Zaitsev**

Chairman of the Board of the Cluster “Russian Maglev”,  
Doctor of Economics,  
Professor at PGUPS,  
Minister of Communications of Russia (1996–1997)

**Welcome Message from Prof. Dr. Hiroyuki Ohsaki**

On behalf of the International Steering Committee, I sincerely welcome you to the MAGLEV 2018 conference in St. Petersburg, Russian Federation. Since the first MAGLEV conference in Boston, USA in 1977, the 23 MAGLEV conferences were held in North and South America, Asia and Europe. In the 21st century the conferences were held in Switzerland, China, Germany, USA, Korea, and Brazil. This is the 24rd MAGLEV conference and the first conference held in the Russian Federation.

The MAGLEV conference will provide a unique opportunity for engineers, researchers, and those involved in railway industry, transportation planning and urban design to meet and exchange the latest information on maglev and linear drive technologies. With fruitful exchange of the information, I believe the conference could contribute a lot to improvement of operational characteristics and practical realization of new systems.

The MAGLEV 2018 conference will be held in St. Petersburg at the Emperor Alexander I St. Petersburg State Transport University. I would be very happy to have you enjoy the conference and the stay in St. Petersburg.

**Hiroyuki Ohsaki**

Chair of the International Steering Committee of MAGLEV 2018

## **Welcome Message from Prof. Dr. Johannes Kluehspies**

The 24<sup>th</sup> international MAGLEV Conference 2018 in St. Petersburg is concerned with technological research and development of linear motors and levitation systems plus all those transportation and energy solutions, especially innovative ones, that could make everyday life easier and transport function smarter.

Until today, it is still unclear to most decision makers and even to many experts what impact Maglev and linear motors could have on society and industry, and how they could contribute to meaningful objectives in transport. There is an obvious need for information on international trends in the application of Maglev transport technologies.

Therefore, with the aim of tracking current trends in the market perspectives of magnetic levitation, or maglev technologies, the non-profit International Maglev Board conducted a primary study in the spring of 2018 among maglev specialists and transportation professionals. The study examines the acceptance and prospects of maglev systems in the transport sector. The suitability of maglev systems in comparison with conventional wheel-rail systems is considered and differentiated according to different fields of application. Overall, a picture of the future suitability of maglev systems is developed. More than a thousand professionals took part in this scientific survey. The results will be published for the first time at the Maglev2018 conference.

MAGLEV conferences show the application of new technologies, their potentials, and their benefits. The conferences encourage differences of opinion on the specific systems and their respective impacts on technology development, society and environment, especially as these issues form the basic components of a constructive, critical discussion.

It is the very first time that the Maglev conference will be held in the Russian Federation. The International Maglev Board would like to thank the Emperor Alexander I St. Petersburg State Transport University for the great commitment in the preparation for the conference.

We look forward to exciting presentations, numerous discussions and a great time together in St. Petersburg.

**Johannes Kluehspies**

President of the International Maglev Board

















# CONFERENCE SCHEDULE

The Conference is held from September 5<sup>th</sup> until September 8<sup>th</sup>, 2018 at PGUPS.

Address: Saint Petersburg, 9 Moskovskiy Avenue.

Metro “Sennaya Ploshchad” / ”Sadovaya” / “Spasskaya”

September 5 <sup>th</sup> , 2018, Wednesday			
Registration of the participants, welcome coffee	08.30-09.30	 Column Hall	Registration, dissemination of the programme, participant sets
Opening ceremony and photographing	09.30-10.30	 Physics Auditorium	Opening ceremony, welcome addresses of the Rector, officials, IMB members
Coffee break	10.30-11.00	 Hall nearby Physics Auditorium	
Plenary Session 1	11.00-12.30	 Physics Auditorium	Session “Strategic Development of Maglev Transport, global and regional projects”, reports by key speakers
Lunch	12.30-14.00	 &  Dining Halls of Buildings 1 and 7	
Plenary Session 2	14.00-15.30	 Physics Auditorium	Session “Strategic Development of Maglev Transport, global and regional projects”, reports by key speakers
Coffee break	15.30-16.00	 &  Dining Halls of Buildings 1 and 7	
Section meetings	16.00-17.30	 Physics Auditorium  Chemistry Auditorium  Oak Hall  Hall of Assembly	Four section running in parallel
Rector’s reception party	18.00-20.00	 White Hall of the Yusupov Palace on the Fontanka River	Rector’s reception party for Maglev 2018 participants. By invitation







Meeting of the IMB members	21.00-23.00	Conference Hall of the Hotel "Azimut"	Discussion about the running conference, working issues, and the place of the next conference
September 6 <sup>th</sup> , 2018, Thursday			
Section meetings	09.00-11.00	<div>BP</div> Physics Auditorium <div>BC</div> Chemistry Auditorium <div>OH</div> Oak Hall <div>HA</div> Hall of Assembly	Four section running in parallel
Coffee break	11.00-11.30	<div>Dh1</div> & <div>Dh7</div> Dining Halls of Buildings 1 and 7	
Section meetings	11.30-13.00	<div>BP</div> Physics Auditorium <div>BC</div> Chemistry Auditorium <div>OH</div> Oak Hall <div>HA</div> Hall of Assembly	Four section running in parallel
Registration Business meetings	11.00-11.30	Lobby at the Hall of Assembly	
Business meetings	11.30-13.30	Fireplace Hall room 2-210	As part of the business transport forum
Lunch	13.00-14.30	<div>Dh1</div> & <div>Dh7</div> Dining Halls of Buildings 1&7	
Poster session	14.30-17.00	<div>OH</div> Oak Hall	Reports, seeing the poster's exposition
Business meetings	14.30-17.00	Fireplace Hall room 2-210	As part of the business transport forum
Coffee break	16.00-16.30	<div>OH</div> Oak Hall	
Conference closing ceremony	17.00-18.00	<div>BP</div> Physics Auditorium	Reports, conference summary
Getting in the buses	18.00-18.15	Building 1 exit, 9 Moskovskiy Avenue	
Transfer to the pier by the Winter Palace – The Hermitage	18.15-18.45	18 Palace Embankment (Dvortsovaya Naberezhnaya 18)	Boarding by invitations
On-board gala dinner	19.00-22.00	Gala dinner on the ship with a walk down the water area of the Neva River	








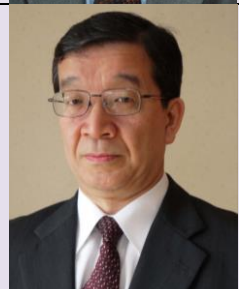
September 7 <sup>th</sup> , 2018, Friday			
*Peter and Paul's Fortress	10.00-12.00	1 Zayachiy Island (Zayachiy Ostrov 1)	Three groups, 20 persons each
Lunch	12.00-13.00	A restaurant in Peter and Paul's Fortress	60 persons
*The Hermitage Museum	13.30-16.30	1 Palace Square (Dvortsovaya Ploshchad' 1)	Three groups, 20 persons each
Dinner	17.00-18.00	Russian cuisine restaurant "Teremok" at 11 Bolshaya Morskaya St.	At participants' discretion, independently
**Theatre evening, Mikhailovsky Theatre at 1 Arts Square (Ploshchad' Iskusstv 1)	19.00	Tickets can be bought 30 minutes before the play	Aram Khachaturyan's "Spartak" Ballet
September 8 <sup>th</sup> , 2018, Saturday			
*Technical tour, the Russian Railway Museum	09.00-12.00	4 Library Lane (Biblioteknyi Pereulok, 4)	Groups of 25 persons
Lunch	12.00-13.00	The Russian Railway Museum	50 persons
*Bus tour to Peterhof	13.00-19.00	Boarding at 4 Library Lane (Biblioteknyi Pereulok, 4)	Groups of 25 persons
Return, dinner	19.00-20.00	4 Matveyev Lane (Pereulok Matveyeva 4)	50 persons
September 9 <sup>th</sup> , 2018, Sunday			
*Visit to the Children's Railway	09.00-14.00	"Kupchino" Metro Station	

\* Excursion groups are formed beforehand. The applications are accepted via e-mail: [admin@rusmaglev.com](mailto:admin@rusmaglev.com)

\*\*Participants bought the tickets beforehand at the Theatre's website. Unfortunately, there are no tickets available for buying.





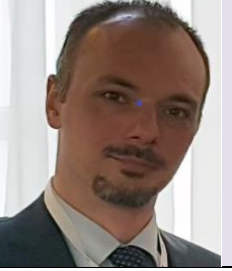
<b>September 5<sup>th</sup>, 2018, Wednesday</b> <b>OPENING CEREMONY</b> <b>Time limit of all speeches: 5 – 7 minutes</b>		
09.30-10.30	<b>MAGLEV 2018 OPENING CEREMONY</b>  <b>Physics Auditorium, Building 6</b>	
	Welcome address Governor of St. Petersburg <b>Georgy Poltavchenko</b> (St. Petersburg, Russia)	
<b>3 minutes</b>	Student Choir: Hymn of Emperor Alexander I St. Petersburg State Transport University (PGUPS)	
	Welcome address Head of the Federal Agency for Railway Transport <b>Vladimir Chepets</b> (Moscow, Russia)	
	Welcome address Rector of Emperor Alexander I St. Petersburg State Transport University <b>Alexander Panychev</b> (St. Petersburg, Russia)	
	Welcome address Honorary Scientific Adviser of Joint Stock Company “D.V. Efremov Institute of Electrophysical Apparatus” (JSC «NIIIEFA») <b>Vasily Glukhikh</b> (St. Petersburg, Russia)	



	Welcome address Chief Executive Officer – Managing Director Keystone Trade Oil & Gas Group (KTOGG Group) MBA Intl (Hons), MSc <b>Vito Mariano</b> (Italy)	
	Welcome address Executive Director of National Association of Technology Transfer (NATT) <b>Egor Shipitsyn</b> (Moscow, Russia)	
10.15-10.20	Short film: An Introduction to the PGUPS university and St. Petersburg	
10.20-10.30	Official photo shooting: Group photo of the participants Maglev 2018	
10.30-11.00	Coffee-break in the lobby of the  Physics Auditorium, Building 6	
<b>PLENARY SESSIONS</b>		
<b>Time limit of all presentations: 15 minutes for a speech, 5 minutes for discussions</b>		
11.00-12.20	<b>Keynote speeches</b> "STRATEGIC DEVELOPMENT OF MAGLEV TRANSPORT, GLOBAL AND REGIONAL PROJECTS"  <b>Plenary Session</b> in the  Physics Auditorium, Building 6	
11.00-11.20	<b>Anatoly Zaitsev</b> Co-Author: Ya. Sokolova Prospects of Establishment of East-West Transport Transit Corridor with Application of Magnetic Levitation Technology (St. Petersburg, Russia)	
11.20-11.40	<b>Hiroyuki Ohsaki</b> Status and Prospects of Japanese Maglev Systems – Development and Commercial Operation (Tokyo, Japan)	





11.40-12.00	<b>Johannes Kluehspies</b> Perspectives and Major Barriers to an Innovation of Maglev Transport Systems (Munich, Germany)	
12.00-12.20	<b>Guobin Lin</b> Co-Author: Xiongwei Sheng Application and Further Development of Maglev Transportation Technology in China (Shanghai, China)	
12.20-12.30	Discussions	
12.30-14.00	Lunch  & 	
14.00-15.30	<b>Keynote Speeches - Part 2 of the Session "STRATEGIC DEVELOPMENT OF MAGLEV TRANSPORT, GLOBAL AND REGIONAL PROJECTS"</b>  <b>Physics Auditorium, Building 6</b>	
14.00-14.20	<b>Friedrich Loeser</b> Co-Authors: A. Rüdiger, J. Frantzheld, M. Jetter MULTI® - Rope-less Elevator Demonstrator at Test Tower Rottweil (Munich, Germany)	
14.20-14.40	<b>Laurence Blow</b> Status of Maglev Projects in North America (Washington D.C., USA)	
14.40-15.00	<b>Sergei Smirnov</b> The Role of Freight Maglev in World Economics (St. Petersburg, Russia)	



15.00-15.20	<b>Sven Koerner</b> High Speed Maglev - Key underlying technologies (Dresden, Germany)	
15.20-15.30	Discussions	
15.30-16.00	Coffee-Break  & 	
<b>SESSIONS: four parallel thematic sections</b> <b>Time limit for all presentations: 10 minutes for a speech, 5 minutes for discussions</b>		
16.00-17.30	<b>Session “TRANSPORTATION SYSTEMS”</b> <b>Chairman: Sven Koerner</b>  <b>Physics Auditorium, Building 6</b>	
16.00-16.15	<b>Eckert Fritz</b> Co-Authors: R. Kircher, J. Klühspies, M. Witt Energy Consumption of High-Speed Systems: Maglev Systems Compared to Wheel Rail Systems (Dresden, Germany)	
16.15-16.30	<b>Arthur Wolek</b> Maglev Freight - One Possible Path Forward in the U.S.A. (Orlando, Florida, USA)	
16.30-16.45	<b>Vladimir Andreev</b> High-Speed Highways "Eurasia" (Moscow, Russia)	
16.45-17.00	<b>Wanming Liu</b> Co-Authors: C. An Comparison of HSM and HSR – Chinese Scene (Shanghai, China)	
17.00-17.15	<b>Wanming Liu</b> Co-Authors: J. Li, Y. Dai, C. An Development Prospect of High Speed Maglev after High Speed Rail Era (Shanghai, China)	
17.15-17.30	<b>Andrey Nikolaev</b> Magnetic Levitation Transport as an Instrument for Innovative Transformation of Spatial Structure of Urban Agglomerations (Moscow, Russia)	



16.00-17.30	<b>Session “MAGLEV SUBSYSTEMS”</b> <b>Chairman: Hiroyuki Ohsaki</b>  <b>Chemistry Auditorium, Building 3</b>
16.00-16.15	<b>Yonezu Takenori</b> Co-Authors: W. Ken, S. Erimitsu, S. Takashi A Study on a Design Method of EDS and LSM of a Superconducting Maglev System (Tokyo, Japan)
16.15-16.30	<b>Richard Magdalena Stephan</b> Co-Authors: R. de Andrade, C. F. dos Santos Characterization of Levitation Force for a Superconducting Magnetic Levitation Vehicle (Rio de Janeiro, Brazil)
16.30-16.45	<b>Sannomiya Kenta</b> Co-Authors: T. Morizane, N. Kimura, H. Omori Experimental Confirmation of Thrust Force and Attractive Force Control by Linear Induction Motor (Osaka, Japan)
16.45-17.00	<b>Günter Fuchs</b> Co-Authors: L. Schultz, O. de Haas, B. Holzapfel, D. Berger Passively Stable Energy Efficient MAGLEV System Based on Quantum Levitation: The SupraTrans (Dresden, Germany)
17.00-17.15	<b>Rolando Caicedo</b> Co-Authors: E.R. Filho, C.A. Baldan An Approach to Research the Fringing Flux in Transverse Flux Linear Induction Motors (Город, Страна)
17.15-17.30	<b>Heya Akira</b> Co-Authors: K. Hirata, N. Niguchi Linear Vernier Actuator with Two Movers (Osaka, Japan)
16.00-17.30	<b>Session “REGULATORY ISSUES”</b> <b>Chairman: Laurence Blow</b>  <b>Oak Hall, Building 1</b>
16.00-16.15	<b>Vadim Morozov</b> On the Training of Personnel for Innovative Activities on Transport (Moscow, Russia)
16.15-16.30	<b>Boris Lapidus</b> Magnetic Levitation as the Fundamental Basis for Superfast Vacuum Levitation Transport Technologies (Moscow, Russia)
16.30-16.45	<b>Natalia Zhuravleva</b> Assessment Methodology for Intermodal Effects of High-Speed Magnetic Levitation (St. Petersburg, Russia)




16.45-17.00	<b>Pan Hongliang</b> Co-Authors: G. Zeng, X. He, Z. Zhu Risk Assessment Model of the Guideway Switch System of the High Speed Maglev System (Shanghai, China)
17.00-17.15	<b>Jim Venturi</b> Co-Author: E. Chao Operational Breakdown and Performance Measure of the Transcontinental High-Speed Maglev – a Recipe for Service Safety and Reliability (New York, USA)
17.15-17.30	<b>Ivan Shelemba</b> Fiber-Optic Monitoring Systems for Transport Day (Perm, Russia)
16.00-17.30	<b>Session “CURRENT STATUS AND NEW IDEAS”</b> <b>Chairman: Guobin Lin</b>  HA Assembly Hall, Building 1
16.00-16.15	<b>Roland Kircher</b> Co-Authors: J. Kluehspies, R. Palka, E. Fritz, K. Eiler, M. Witt Electromagnetic Fields Related to High-Speed Transportation Systems (Deggendorf, Germany)
16.15-16.30	<b>Andrea Santangelo</b> Hyperloop as an Evolution of Maglev (Catania, Italy)
16.30-16.45	<b>Daniel Dietz</b> Co-Author: A. Binder A Bearingless PM Synchronous Machine with a Zero-Sequence Current-Driven Star Point-Connected Active Magnetic Thrust Bearing (Darmstadt, Germany)
16.45-17.00	<b>Hyung-Suk Han</b> Co-Authors: Chyung-Hyun Kim, Jaewon Lim, Chang-Wan Ha Latest Advancements in the Urban Maglev ECOBEE (Daejeon, Republic of Korea)
17.00-17.15	<b>Evgeny Sundukov</b> Co-Authors: L. Selivanov, V. Sundukova The Maglev – Systems on the Basis of Trestle of Arch Type (Syktyvkar, Russia)
17.15-17.30	<b>Rajat Mishra</b> Co-Authors: H. Sharma, H. Mishra High Speed Vacuum Air Vehicle (Ghaziabad, India)
18.00-20.00	<b>PGUPS Rector’s Reception party for the participants of Maglev 2018</b>  WH White Hall of the Yusupov Palace
21.00-23.00	<b>Internal meeting of the members of the International Steering Committee on magnetic levitation conferences</b> <b>Location: Conference hall of the Hotel "Azimut"</b>




<b>September 6<sup>th</sup>, 2018, Thursday</b> <b>SESSIONS: four parallel thematic sections</b> <b>Time limit for all presentations: 10 minutes for a speech, 5 minutes for discussions</b>	
09.00-11.00	<b>Session “TRANSPORTATION SYSTEMS”</b> <b>Chairman: Roland Kircher</b>  <b>Physics Auditorium, Building 6</b>
09.00-09.15	<b>Reinhard Rampelmann</b> Co-Authors: R. Köhler Service Experiences Maglev Vehicles Shanghai (Munich, Deutschland)
09.15-09.30	<b>Ye Li</b> Co-Authors: X. Liang, W.-L. Wang, S.-K. Gao Characteristic Research for Collector-Contact Line Relation of Lateral Current Collection for the Medium Speed Maglev Train (Changsha, China)
09.30-09.45	<b>Chunhui Dai</b> Co-Authors: X. Wang Study on Signal Processing and Fault Diagnosis of Absolute Positioning Sensor for High Speed Maglev Train (Changsha, China)
09.45-10.00	<b>Chunfa Zhao</b> Co-Authors: Feng Yang, Ren Xiaobo, Li Yan Curving Performance of Medium-Low Speed Maglev Vehicle Considering Nonlinear Characteristics of Air Spring Suspension (Chengdu, China)
10.00-10.15	<b>Yang Feng</b> Co-Authors: Chunfa Zhao, Degang Liu, Xiaobo Ren Dynamic Mechanical Behaviors of Secondary Air Spring Suspension of High-Speed Maglev Vehicles Running over the Curve Track (Chengdu, China)
10.15-10.30	<b>Gino d'Ovidio</b> Co-Author: G. Lanzara Innovations and Performance of Italian UAQ4 Superconducting Magnetic Levitated System (L'Aquila, Italy)
10.30-10.45	<b>Manuel Kirchner</b> Empirical Investigation of Possible Concerns Regarding the Use of Magnetic Levitation Elevators (Deggendorf, Germany)
10.45-11.00	<b>Angelo Jacob</b> Co-Authors: Monteiro NMV A New Concept of Superelevation in Magnetic Levitation - Prodynamic (Porto, Portugal)








09.00-11.00	<b>Session “MAGLEV SUBSYSTEMS”</b> <b>Chairman: Friedrich Loeser</b>  <b>Chemistry Auditorium, Building 3</b>
09.00-09.15	<b>Andrey Galenko</b> <b>Anatolij Fironov</b> Co-Authors: A. Gorelov, V. Konovalov Experience in the Development of Transport Systems with Magnetic Suspension and Linear Electric Drive (Moscow, Russia)
09.15-09.30	<b>Yun Feng He</b> Co-Authors: Y.-S. Wang, Q.-F. Lu, L. Zhang, L. Fang Design of Single-Sided Linear Induction Motor for Low Speed Maglev Vehicle in 160 km/h and Variable Slip Frequency Control (Hangzhou, China)
09.30-09.45	<b>Zhixun Ma</b> Co-Authors: Y. Zhao, Y. Sun, Z. Liao, G. Lin Constant Switching Frequency Model Predictive Control for Permanent Magnet Linear Synchronous Motor (Shanghai, China)
09.45-10.00	<b>Vladimir Solomin</b> Co-Authors: A. Solomin, L. Zamshina, N. Trubitsina, A. Chekhova New Technology of Manufacture of Linear Asynchronous Motor Inductors for Magnetic Levitation Transport (Rostov-on-Don, Russia)
10.00-10.15	<b>Vladimir Solomin</b> Co-Authors: A. Solomin, V. Koledov, N. Trubitsina Multifunctional Linear Asynchronous Motor with Longitudinal-Transverse Magnetic Flux for Magnetic Levitation Transport (Rostov-on-Don, Russia)
10.15-10.30	<b>Alexander Kireev</b> Co-Authors: N. Kozhemyaka, G. Kononov High-Speed Container Transport System (Novochoerkassk, Russia)
10.30-10.45	<b>Alexey Krylov</b> Intellectual Electrotechnical Complex for Ensuring the Safety and Reliability of the Transport Process of Magnetic-Levitation Transport (St. Petersburg, Russia)
10.45-11.00	<b>Vladimir Bubnov</b> Co-Authors: S. Sergeev, V. Solovyova Non-Stationary Reliability Models of Elements and Nodes of the Magnetic-Levitation Transport System (St. Petersburg, Russia)



09.00-11.00	<b>Session “REGULATORY ISSUES”</b> <b>Chairman: Michael Witt</b>  <b>Oak Hall, Building 1</b>
09.00-09.15	<b>Konstantin Kim</b> The Russian Version of the Transport System “Hyperloop” (St. Petersburg, Russia)
09.15-09.30	<b>Janić Milan</b> Multicriteria Evaluation of HS (High Speed) Transport Systems - MAGLEV, HSR (High Speed Rail) and HL (Hyperloop) (Delft, Netherlands)
09.30-09.45	<b>Viktor Bogachev</b> Co-Authors: Yu. Terentyev, V. Koledov, T. Bogachev. Jungary WMLT- Corridor: Lost Opportunities or Weighted Optimism? (Rostov-on-Don, Russia)
09.45-10.00	<b>Doh Young Park</b> Co-Authors: B.C. Shin, K.B. Lee, S.K. Ma Operating Cost of Incheon Airport Maglev Line (Daejeon, Republic of Korea )
10.00-10.15	<b>Xiaohua Wang</b> Co-Authors: Jin Yu, Lin Ying, Lu Diqiang, Qin Feng Speed Increasing Scheme by Using 3000V DC Power Supply for Low-Speed Maglev (Shanghai, China)
10.15-10.30	<b>Jiewei Zeng</b> Co-Authors: Z. Long, Liang Xiao Measurement of the Residual Stress for the Bogie Frame of Maglev Vehicle Based on Barkhausen Effect (Changsha, China)
10.30-10.45	<b>Min Zhang</b> Co-Authors: Ma Weihua, Gao Chang, Luo Shihui Application of Low-Dynamic-Interaction Levitation Frame to Medium-Low Speed Maglev Vehicle (Chengdu, China)
10.45-11.00	<b>Qingying Lai</b> Co-Authors: J. Liu, L. Meng, X. Chai, Q. Wang, Y. Xu Optimization of the Auxiliary Stopping Area Planning in the Middle-To-High Speed Maglev (Beijing, China)



09.00-11.00	<b>Session “CURRENT STATUS AND NEW IDEAS”</b> <b>Chairman: Johannes Kluehspies</b>  <b>Assembly Hall, Building 1</b>
09.00-09.15	<b>Alves da Costa Eduardo</b> Co-Authors: M.B. Gaspar, V.M.A. Hansen, R.G.S. Junior, E. Rech, A.B. Campo Axial Force and Rotation in the Electrodynamic Bearing (São Paulo, Brazil)
09.15-09.30	<b>Yuri Antonov</b> On the Discovery of the Phenomenon of Electromagnetic Induction of Direct Current (St. Petersburg, Russia)
09.30-09.45	<b>Yuri Terentyev</b> Co-Authors: V.V. Filimonov, G.G. Malinetsky, V.A. Smolin, V.G. Shavrov, V.V. Koledov, D.A. Suslov, D.A. Karpukhin, A.V. Mashirov, S.V. Fongratovsky, K.L. Kovalev, R.I. Ilyasov, V.N. Poltavets, B.A. Lyovin, A.M. Davydov, P.V. Kurenkov, I.V. Karapetyants, P.V. Kryukov, B.V. Drozdov, V.S. Kroposhin, M.Y. Semenov, N.A. Nizhelsky, V.A. Solomin, V.S. Bogachev, V.M. Fomin, D.G. Nalivaichenko, T.V. Bogachev Integrated Transit Transport System (ITTS) of Russia Based on Vacuum Magnetic Levitation Transport (VMLT) (Moscow, Russia)
09.45-10.00	<b>Vladimir Komarov</b> Co-Authors: V.A. Glushenkov, M.A. Sleptsov Multifunctional Maglev Transport System "ELTRO" (Moscow, Russia)
10.00-10.15	<b>Artemy Rubinskiy</b> Co-Authors: T. Vlasov, N. Chalisova The Biological Model Provides the Study of the Negative Effects of Magnetic Fields (for the Project "Russian MAGLEV") (St. Petersburg, Russia)
10.15-10.30	<b>Nikolay Grigorev</b> Reactive and Personal Anxiety when Making Management Decisions on the Transport (St. Petersburg, Russia)
10.30-10.45	<b>Mikhail Volkov</b> Professor Weinberg and his Installation for “Motion without Friction” (Siberia, Tomsk, 1911) (St. Petersburg, Russia)
11.00-11.30	Coffee-Break  & 



11.00-11.30	<b>Registration of the participants of the Business Transport Forum</b> <b>Lobby at the Hall of Assembly, Building 1, 2nd floor</b>
11.30-13.30	<b>Business meetings within the Business Transport Forum</b> <b>Fireplace Hall, room 2-210</b>
11.30-13.30	Session "TRANSPORTATION SYSTEMS" Chairman: Eckert Fritz  BP Physics Auditorium, Building 6
11.30-11.45	<b>Jie Li</b> Co-Authors: P. Wang, G. Ren, Y. G. Wang, G. B. Zeng, P. Cui, D. F. Zhou, P. C. Yu Construction and Equipment Configuration of Beijing Urban Maglev Commercial Line (Changsha, China)
11.45-12.00	<b>Yusheng Zhang</b> Co-Authors: C. Zhao, Y. Feng, X. Ren, Y. Luo Modeling and Simulation of Coupling Vibration between Medium-Low Speed Maglev Vehicle and Switch Beam (Chengdu, China)
12.00-12.15	<b>Danfeng Zhou</b> Co-Authors: Peichang Yu, Jie Li, Peng Cui, Mengxiao Song Adaptive Vibration Control of the Electromagnet Track Coupled High Frequency Resonance for an Urban Maglev System (Changsha, China)
12.15-12.30	<b>Arkadij Lascher</b> Theoretical Base and Methods of the Complex Optimization of Maglev (Dresden, Germany)
12.30-12.45	<b>Michael Witt</b> Co-Authors: A. Lascher, E. Frishman, M. Umanov Results of the Complex Optimization of Maglev (Dresden, Germany)
12.45-13.00	<b>Hekler Martina</b> Co-Authors: J. Klühspies Disruptive Technologies Transforming Urban Mobility? The Role of the Ecobee Urban Maglev System in the Seoul Traffic Vision 2030, South Korea (Deggendorf, Germany)



11.30-13.30	<b>Session “MAGLEV SUBSYSTEMS”</b> <b>Chairman: Vladimir Shmatchenko</b>  <b>Chemistry Auditorium, Building 3</b>
11.30-11.45	<b>Abbassi Abdellatif</b> Co-Authors: M. Saint-Paul, C. Guttin, M. R. Britel, R. Dkiouak, Z.-S. Wan, H. Luo, X. Lu, C. Ren, H.-H. Wen, K. Hasselbach Competition between the Antiferromagnetic Phase and the Superconducting Phase and the Effect of the Magnetic Fluctuations in the Underdoped BaFe <sub>2-x</sub> Ni <sub>x</sub> As <sub>2</sub> (Tangier, Morocco)
11.45-12.00	<b>Xiong Zhou</b> Co-Authors: Z. Deng, J. Zheng, R. Sun, H. Liao, X. Zheng, J. Zhang Recent Activities of HTS Maglev in ASCLab (Shanghai, China)
12.00-12.15	<b>Valery Korzhov</b> Co-Author: V. Zverev Multilayer Superconducting Nb50Ti Tape Made of Cu/Nb/Ti Composite by Solid-Phase Method (Chernogolovka, Russia)
12.15-12.30	<b>Peichang Yu</b> Co-Authors: Y. Liu, X. Zha, Gao Ming, Cui Peng, J. Li, D. Zhou, J. Zeng Modeling and Controller Design for Permanent Magnet-Electromagnetic Hybrid Suspension (Changsha, China)
12.30-12.45	<b>Youguang Guo</b> Co-Authors: J. Jin, J. Zhu, G. Lei Design of a SLIM for HTS Magnetic Levitation and Propulsion System (Sydney, Australia)
12.45-13.00	<b>Siyuan Mu</b> Co-Authors: S. Wang, Y. Liu, J. Kang A Method of Thrust Ripple Suppression for Long Stator Linear Synchronous Motor (Shanghai, China)
11.30-13.30	<b>Session “TRANSPORTATION SYSTEMS”</b> <b>Chairman: Hiroyuki Ohsaki</b>  <b>Oak Hall, Building 1</b>
11.30-11.45	<b>Tatyana Zimenkova</b> Co-Authors: V. Nikitin, S. Kaznacheev, A. Krasnov, N. Aksenov Experimental Researches on Magnetic Levitation Forces in Permanent Magnet-Based Suspension System (St. Petersburg, Russia)
11.45-12.00	<b>Jingyu Huang</b> Co-Authors: Xiong Zhou, Zhewei Wu Influence of Track Irregularities on Ride Comfort of Low-Speed Maglev System (Shanghai, China)
12.00-12.15	<b>Arkady Livshits</b> Parametric Analysis in Dynamics of Structures with Uncertain Damping (Haifa, Israel)





12.15-12.30	<b>Georgii Igolkin</b> Methodological Base for the Implementation of the Magnetic Levitation Transport Technology Project in Russia (St. Petersburg, Russia)
12.30-12.45	<b>Pavel Troitskiy</b> Calculation and Comparison of Loads on the Track Structure Train Railroad System Wheel-Rail and the Train System Maglev (St. Petersburg, Russia)
12.45-13.00	<b>Maria Fiodorova</b> Evaluation of Public Efficiency of The Strategy for Development of High-Speed Urban Transport (St. Petersburg, Russia)
11.30-13.30	<b>Session "CURRENT STATUS AND NEW IDEAS"</b> <b>Chairman: Richard Magdalena Stephan</b>  <b>Assembly Hall, Building 1</b>
11.30-11.45	<b>Hugo Ferreira</b> Co-Author: Richard Magdalena Stephan Air-Cushion Vehicle (ACV): History Development and MagLev Comparison (Rio de Janeiro, Brazil)
11.45-12.00	<b>Xiyu Zhang</b> Co-Author: L. Zhang Analysis on Economic Benefit of Shanghai Maglev Line (Beijing, China)
12.00-12.15	<b>Shaozhi Hong</b> Co-Authors: W. Liu, X. Chen Maglev Technology In China: The New Spring And Enlightenment For Future Development (Shanghai, China)
12.15-12.30	<b>Yuri Isupov</b> Research and applied subjects of Nizhny Tagil City Council of the All-Russian Society Rationalizers (Nizhny Tagil, Russia)
12.30-12.45	<b>Richard Magdalena Stephan</b> Co-Authors: F. Costa, E. Rodriguez, Z. Deng Retrospective and Perspectives of the Superconducting Magnetic Levitation (SML) Technology Applied to Urban Transportation (Rio de Janeiro, Brazil)
13.00-14.30	Lunch  & 



<b>14.30-16.30</b>	<b>Poster Session</b>  <b>Oak Hall, Building 1</b>
1 High-Speed Maglev	<b>Qin Feng</b> Co-Authors: Y. Lin, D. Lu Hardware-in-the-Loop Simulation of High-Speed Maglev Transportation Five-Segment Propulsion System Based on dSPACE (Shanghai, China)
	<b>Hyung-Woo Lee</b> Co-Authors: W.Y. Ji, G. C. Jeong, I. H. Jo, H.S. Oh A Study of Non-Symmetric Double-Sided Linear Induction Motor for Hyperloop All-in-One System (Propulsion, Levitation, Guidance) (Uiwang, Republic of Korea)
	<b>Yaohua Li</b> Co-Authors: K. Wang, Q. Ge, L. Shi A Special Excitation System for Analysis of Coupling Characteristics of Thrust and Levitation Force of Maglev Train (Changsha, China)
	<b>Pengkun Sun</b> Co-Authors: Q. Ge, X. Wang, B. Zhang Research on Speed Sensorless Control of Maglev Train with Double-End Power Supply (Changsha, China)
	<b>Ji Woo Young</b> A Hyperloop All-in-One System using Non-symmetric (Uiwang, Rep. of Korea)
	<b>Long Yin</b> Co-Authors: G. Sun, C. Guo, J. Hu Ultra High Cycle Fatigue of the High-Speed Maglev Train Levitation Frame Arm Based on Damage Tolerance (Shanghai, China)
	<b>Mingda Zhai</b> Co-Authors: M. Zhai, Z. Long, X. Li Research on Suppression Strategy of Short Wave Irregularity in High Speed Maglev Train (Changsha, China)
	<b>John Van Rosendale</b> Permanent-Magnet-Based Maglev Using Low Frequency Null-Flux Stabilization (Poquoson, USA)
	<b>John Van Rosendale</b> Bimodal Maglev Interoperable with Conventional Rail Infrastructure (Poquoson, USA)
2 Urban Maglev	<b>Vincenzo Delle Site</b> Co-Author: M. Cavagnaro A New Concept of Modular Magnetic Levitation Train for Urban Transport (Rome, Italy)



	<p><b>Wen Ji</b> Co-Authors: J. Xu, L. Rong The Battery Management System of Urban Maglev Train (Shanghai, China)</p>
	<p><b>Liang Xiao</b> Co-Authors: W. Wang, F. Chen, Q. Fu Research on Key Technologies of Medium Speed Maglev Transportation System (Changsha, China)</p>
	<p><b>Ying Lin</b> The Simulation and Analysis for a New Concept of the Stator Power Supply Mode of a Medium Speed Maglev System (Shanghai, China)</p>
	<p><b>Xianglin Xiang</b> Co-Authors: Z. Long, X. Liang, W.-L. Wang Study on Bogies Anti-rolling and Decoupling Characteristics of 160 km/h Medium-speed Maglev Train (Changsha, China)</p>
	<p><b>Wenyue Zhang</b> Co-Authors: Y. Yang, W. Zhang, L. Tong, Q. Peng, H. Luo, X. Li, J. Suo Analysis and Solution of Eddy Current Induced in Rail for Medium and Low Speed Maglev Transportation System (Zhuzhou, China)</p>
	<p><b>Ya Jian Li</b> Co-Authors: P. Cui, D. F. Zhou, P. C. Yu, J. Li Suspension Gap Fluctuation Suppression Method of Low Speed Maglev Train Considering Sensor Layout (Changsha, China)</p>
3 Cargo Maglev	<p><b>Yan Sun</b> Co-Author: G. Lin, Y. Zhao, Z. Ma, J. Xu Design and Analysis of PMLSM Based on Halbach Array for Linear Drive (Shanghai, China)</p>
4 Magnetic Levitation and Guidance in Transport	<p><b>Fei Ni</b> Co-Authors: J. Xu, W. Ji, G. Lin Nonlinear Suspension Controller Design for EMS Maglev Train Considering Track Periodical Irregularity (Shanghai, China)</p>
6 Linear Motors	<p><b>Jiangming Deng</b> Co-Authors: Y. Yang, L. Tong, Q. Peng, X. Li, J. Suo The Variable Slip-Frequency Control of Linear Induction Motor Applied in Fast Speed Maglev Train (Zhuzhou, China)</p>
	<p><b>Jiarong Fang</b> Co-Authors: B. Montgomery, G. Lin The Linear Motor Driven Container Transport System (Hampton, USA)</p>



	<p><b>Kato Masayuki</b> Co-Author: Katsuhiro Hirata Control of Three-Degree-of-Freedom Resonant Actuator Driven by Novel Vector Control (Osaka, Japan)</p>
	<p><b>Kubota Aiko</b> Co-Authors: T. Morizane, N. Kimura, H. Omori Investigation of Linear Induction Motor System with Matrix Converter for High Efficiency Operation (Osaka, Japan)</p>
	<p><b>Lyu Gang</b> Co-Authors: T. Zhou, D. Zeng The Influence of the Secondary Construction on the Harmonic Air-Gap Magnetic Field in the Linear Induction Motor (Beijing, China)</p>
	<p><b>Siyuan Mu</b> Co-Authors: S. Wang, Y. Liu, J. Kang A Method of Thrust Ripple Suppression for Long Stator Linear Synchronous Motor (Shanghai, China)</p>
	<p><b>Ryszard Palka</b> Co-Authors: K. Woronowicz, J. Kotwas Current Mode Performance of a Traction Linear Induction Motor Driven from the Voltage Converter (Szczecin, Poland)</p>
	<p><b>Liming Shi</b> Co-Authors: X. Sun, Q. Ge, Y. Li The Field Oriented Based Thrust Control of Double Sided Linear Induction Motor with Parallel Connection (Beijing, China)</p>
7 Superconductors, Application of Superconductivity	<p><b>Abbassi Abdellatif</b> Co-Authors: M. Saint-Paul, C. Guttin, M. R. Britel, R. Dkiouak, Z.-S. Wan, H. Luo, X. Lu, C. Ren, H.-H. Wen, K. Hasselbach Magnetic Fluctuations in BaFe<sub>2</sub>-xNixAs<sub>2</sub> Superconductors (Tangier, Morocco)</p>
	<p><b>Chang Young Lee</b> Co-Authors: J.-M. Jo, S.-Y. Choi, J. Lim, K.-S. Lee Design and Experiments of Cryocooler-Free High-Tc Superconducting Electromagnet for Linear Synchronous Motor (Uiwang, Republic of Korea)</p>
	<p><b>Grigorii Lenkov</b> Co-Authors: A. E. Shitov, M. P. Volkov Optimization of HTSC Suspension under Permanent Magnet Guideway (St. Petersburg, Russia)</p>
	<p><b>Xiaoning Liu</b> Co-Authors: Y. Li, S. Bao, C. Liang, R. Sun, Z. Deng An Improved Halbach Electromagnetic Turnout Design for HTS Maglev System (Chengdu, China)</p>



	<p><b>Hongliang Pan</b> Co-Authors: S. Tang, Xu Zhao Progress in the Research of Copper-Oxide Superconductors (Shanghai, China)</p>
	<p><b>Jungyoul Lim</b> Co-Author: C.-Y. Lee, K.-S. Lee Design of a Superconducting Electromagnet with 2G HTS Wire for the Subsonic Transportation System (Uiwang, Republic of Korea)</p>
8 Permanent Magnets	<p><b>Lee Ju, Hyungkwan Jang</b> Co-Authors: G. S. Lee, J. Suh, H. Kim Analysis of Inductance Due to Improved Power of Spoke Type Permanent Magnet Synchronous Motor for Electric Bicycle by Applying Non-Magnetic Material (Seoul, Republic of Korea)</p>
	<p><b>Hyungkwan Jang</b> Co-Authors: J.K. Lee, J. Suh, H. Kim, J. Lee Mathematical Modeling Non Circular Tapering Structure of Permanent Magnet (Seoul, Republic of Korea)</p>
	<p><b>Weili Li</b> Co-Authors: Z. Cao, D. Li, J. Li, Q. Li, X. Guo, D. Tian, J. Wang Comparison of Interior Permanent Magnet Motor with Different Permanent Magnet Topologies for Traction Applications (Beijing, China)</p>
	<p><b>Weili Li</b> Co-Authors: Z. Cao, D. Li, J. Li, Q. Li, X. Guo, D. Tian, J. Wang Influence of Solid Rotor Alloy Material on Starting Performance of Permanent Magnet Traction Motor (Beijing, China)</p>
	<p><b>Jungyoul Lim</b> Co-Authors: Chang-Young Lee, Kwan-Sup Lee Design and Experiments of Cryocooler-Free High-Tc Superconducting Electromagnet for Linear Synchronous Motor (Uiwang, Republic of Korea)</p>
9 Guideway and Infrastructure Technologies	<p><b>Laisheng Tong</b> Co-Authors: Z. Zhu, F. Ye, Z. Wu, G. Zeng Stress Analysis and Structural Comparison of Local Position for Elastic-Bending Guideway Switch (Shanghai, China)</p>
	<p><b>Tang Wanyu</b> Co-Authors: F. Ye, G. Wang Analysis of the Substructure Deformation of Shanghai Maglev Line Due to Urban Municipal Engineering (Shanghai, China)</p>





	<b>Feng Ye</b> Co-Authors: Z. Wu, W. Tang Girder Type Selection in the Test Line of Medium Speed Maglev Transportation (Shanghai, China)
10 Reliability, Safety and Operational Control	<b>Hongliang Pan</b> Co-Authors: J. Xu, Y. Hao, Z. Xu Study on Reliability Analysis of Suspension Controller of the Medium and Low Speed Maglev Vehicle (Shanghai, China)
	<b>Guogiang Wang</b> Co-Authors: S. Hu, F. Ye, G. Zeng, W. Xu Gray Relational Analysis between the Maglev Structural Deformation and Construction Parameters of the Shield Tunnel Crossing the Shanghai Maglev Protected Area (Shanghai, China)
	<b>Chen Yijun</b> Co-Authors: Z. Liao, H. Pan Information Flow Analysis on Data Transmission of High-Speed Maglev Operation Control System Based on Data Priorities (Shanghai, China)
11 Maglev Elevators and Escalators; Magnetic Bearings, Maglev Wind Turbin	<b>Ogata Masafumi</b> Co-Authors: M. Yoshiki, Y. Tomohisa, N. Ken Verification test of superconducting flywheel energy storage system (Tokyo, Japan)
	<b>Yihong Yuan</b> Co-Authors: Y. Luo, F. Ye, Z. Zhu, G. Wang, G. Zeng Analysis on Riding Quality of Maglev Shanghai Demonstration Line (Shanghai, China)
13 Standardization Issues	<b>Peiliang Yan</b> Progress Made and Prospect of Maglev Transportation Standardization in China (Shanghai, China)
17 Transport Policy Issues, Marketing, Aspects of Transport Psychology	<b>Wanming Liu</b> Co-Authors: Fu Ji, G. Sun Fare Sensitivity of Passengers on Changsha Maglev Express Line (Shanghai, China)
<b>14.30-16.00</b>	<b>Business meetings of the Business Transport Forum</b>
14.30-16.30	Coffee-break  Oak Hall, Building 1



17.00-18.00	<b>Plenary Session “CONFERENCE OUTLOOK” &amp; CLOSING CEREMONY OF THE MAGLEV 2018 CONFERENCE</b> <b>Chairs: Anatoly Zaitsev, Evgenia Morozova</b>  <b>Physics Auditorium, Building 6</b>
17.00-17.20	<b>Vladimir Shmatchenko</b> Co-Author: P. Plekhanov Standardization of Maglev Transportation Systems in Russia (St. Petersburg, Russia)
17.20-17.40	<b>Matthias Wenk</b> Co-Authors: J. Kluehspies, L. Blow, E. Fritz, M. Hekler, R. Kircher, M. Witt Practical Investigation of Future Perspectives and Limitations of Maglev Technologies: Results of an International Survey among Transport Experts and Maglev Specialists. International Maglev Board Survey for the year 2018. (Dresden, Germany)
17.40-17.50	<b>Hiroyuki Ohsaki</b> Maglev 2020 Conference Announcement (Tokyo, Japan)
17.50-18.00	<b>Anatoly Zaitsev</b> Closing speech (St. Petersburg, Russia)
18.00-18.15	Boarding the buses - Exit of the Building 1: 9 Moskovsky Avenue
18.15-18.45	Transfer to the pier: Dvortsovaya 18
19.00-22.00	*Gala dinner on the boat with a walk along the water area of the Neva River

September 7 <sup>th</sup> 2018, Friday Excursion day	
10.00-12.00	** Peter-Paul's Fortress
12.00-13.00	Lunch in a restaurant in Peter and Paul Fortress (included in the tour price)
13.30-16.30	** The Hermitage
17.00-18.00	Dinner, restaurant "Teremok" at 11 Bolshaya Morskaya Street
19.00	*** Visit to the Mikhailovsky Theatre. Aram Khachaturyan, ballet "Spartacus". Half an hour before the start, you can individually buy entrance tickets



08 September 2018, Saturday Technical tour, Excursion	
09.00-12.00	** Russian Railway Museum
12.00-13.00	Lunch in the Russian Railway Museum (included in the tour price)
13.00-19.00	** Bus excursion to Peterhof. Bus Boarding at: Bibliotechnyi per., 4.
19.00-20.00	Return to St. Petersburg. Dinner (included in the tour price)

09 September 2018, Sunday, Technical tour	
09.00-14.00	** Visit to the Children's Railway at the Railway station "Kupchino"

\* The number of tickets for Gala dinner is 80. Priority is given to earlier made bookings.

\*\* Excursion groups are formed beforehand by Maglev 2018 participants' applications.

\*\*\* Participants bought the tickets beforehand at the Theatre's website.

*In absentia from Maglev 2018 the following reports are presented:*

<b>Evgenya Milovanova</b> The Design of the New Transport System (Yekaterinburg, Russia)
<b>Stanislav Apollonsky</b> Environmental Safety Issues of High-Speed Ground Transport (St. Petersburg, Russia)
<b>Alexandra Ivanova</b> Co-Authors: M. Masalovich, O. Zagrebelnyy, O. Shilova, I. Kruchinina Liquid-Phase Synthesis, Surface Morphology and Electrochemical Properties of Electrode Material Based On $MnO_2$ (St. Petersburg, Russia)
<b>Natalia Korytko</b> Co-Authors: A. Laptsevich, A. Koshcheev, R. Pisareva, N. Kascheeva Improving Transportation Systems with the Use of Innovative Modes of Transport (Yekaterinburg, Russia)
<b>Vladislav Polyakov</b> Co-Author: N. Hachapuridze Magnetically Levitated Train's Longitudinal Motion (Simulation Results) (Dnipro, Ukraine)
<b>Jiarong Fang</b> Co-Authors: Bruce Montgomery, Guobin Lin The New Status of 1km MagTrack Demoline (Hampton, USA)
<b>Husam Gurol</b> Co-Authors: D. O'Loughlin, M. Hudson, M. Riggs Status of Two Key Maglev Projects in the USA (San Diego, USA)
<b>Metin Guenes</b> Next Generation Transportation System for Istanbul (Istanbul, Turkey)
<b>Wenwen Zhao</b> Co-Author: Lun Zhang UML Based Test Cases Generation for the Centralized System of High Speed Maglev (Shanghai, China)



**Qingxiang Fu** Co-Authors: X. Liang, W. Wang, Y. Li  
Preliminary Study on Vertical Rigidity of Guideway for Medium Speed Maglev Transportation System  
(Changsha, China)

**Colin Hamilton-Williams**  
Pulsar: an Alternative Future  
(London, UK)

**Stephen Colyer** Co-Authors: J. F. Eastham, A. Foster  
Concentrated Winding Linear Synchronous Machines for Transport  
(Shepshed, UK)

**Chris Cook** Co-Author: P. Commins  
Linear Motors for High Precision Applications  
(Wollongong, Australia)

**Huibai Li** Co-Authors: J. Huang, Y. Gao, D. Li  
Analysis of Impact of Energy-Saving Circuit Design on Energy Consumption of High Speed Maglev Transportation  
(Shanghai, China)

**Jiarong Fang**  
Co-Authors: B. Montgomery, G. Lin  
Conceptual Design of the High-Temperature Superconducting Maglev System  
(Hampton, USA)

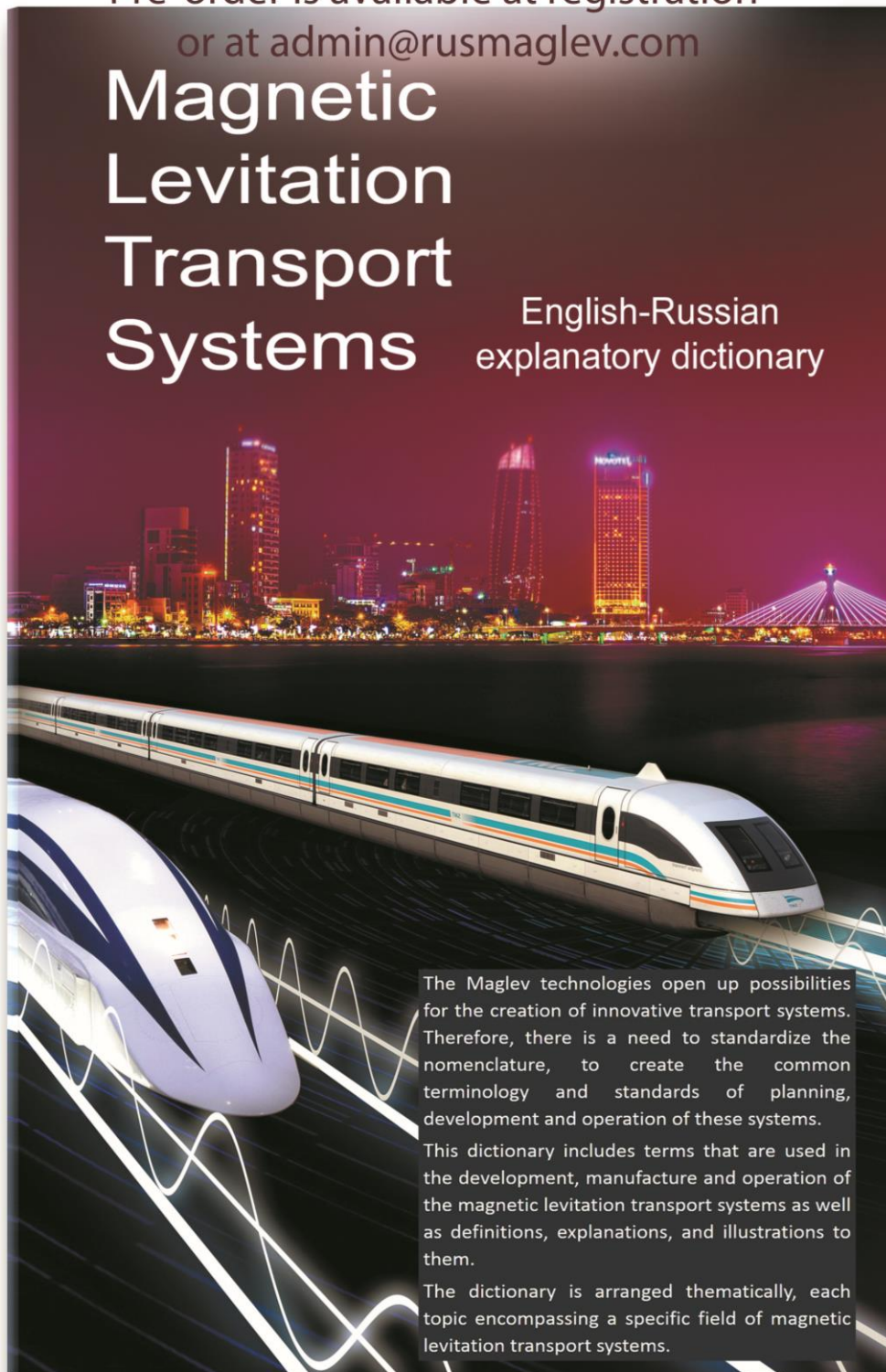
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# Magnetic Levitation Transport Systems

English-Russian  
explanatory dictionary



The Maglev technologies open up possibilities for the creation of innovative transport systems. Therefore, there is a need to standardize the nomenclature, to create the common terminology and standards of planning, development and operation of these systems.

This dictionary includes terms that are used in the development, manufacture and operation of the magnetic levitation transport systems as well as definitions, explanations, and illustrations to them.

The dictionary is arranged thematically, each topic encompassing a specific field of magnetic levitation transport systems.



MTCT

Rus  
Maglev

НП  
ТИТ  
ТРАНСПОРТНЫЕ  
ИНВЕСТИЦИИ



ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ  
«МАНГАСТ»

ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ  
«РЖД ПАРТНЕР»

ОБЩЕСТВО С ОГРАНИЧЕННОЙ ОТВЕТСТВЕННОСТЬЮ  
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# The 7th International Scientific Conference "MAGLEV TRANSPORT SYSTEMS AND TECHNOLOGIES"

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Emperor Alexander I St. Petersburg  
State Transport University  
on May 23<sup>rd</sup>-24<sup>th</sup>, 2019  
Welcome to St. Petersburg!  
Welcome to Russia!



**MAGLEV 2020**  
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