



MAGLEV 2016

The 23rd International Conference



East Entrance, Halls 14.2 / 15.2
www.maglev2016.de

September 23 – 26, 2016, Berlin
in cooperation with  *InnoTrans 2016*



The International Maglev Board



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WELCOME TO MAGLEV 2016

Welcome to the 23rd International Conference on Magnetically Levitated Systems and Linear Drives (**MAGLEV**) in Berlin, Germany. Since the first conference, in 1977, there were seven **MAGLEV** conferences in Asia, seven in Europe, six in North America and two in the South-American Hemisphere.

Ten years ago, in 2006, the 19th **MAGLEV** Conference took place in Dresden, Germany. Now we have the great honor to host the 23rd **MAGLEV** Conference in Berlin, in cooperation with InnoTrans 2016, the leading international trade fair for transport technology which takes place every two years in Berlin.

The theme of the 23rd International **MAGLEV** Conference 2016 is "MAGLEV Solutions for People, Cities, and Regions". The conference 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. Put another way, should the world "Leapfrog to **MAGLEV**?"

MAGLEV 2016 conference papers focus primarily on the research, development and planning of transport technology systems and consequently on all technologies, policies, developments and applications that help satisfy these needs in a more sustainable and efficient way. **MAGLEV** technologies offer new solutions to the public and the private sectors that might facilitate citizens' lives and help them to make choices in favor of modernized public transport systems in urban and regional areas. Therefore, the conference papers encompass many technological applications to exploit **MAGLEV** and linear motors innovations and impart a smarter, more energy-efficient character to our daily transport. The future is here and the **MAGLEV 2016** conference papers give a taste of what technologies are coming and could influence our lives and the ways we manage the ever-increasing transport demand.

MAGLEV conferences are not only purely scientific but show the cost and benefits of new technologies too. Therefore they encourage different opinions on the specific systems and their respective impacts on technology development, society, industry and environment, especially as these issues form the basic components of a constructive and fruitful discussion.

MAGLEV conferences are addressed to researchers, scientists, students, public officials, decision-makers, planners, and any interested citizens who would support a discussion on prospects and limitations of available magnetic levitation technologies and linear motors applied in transport and industry.

Until today, it is still unclear to most decision makers and even to many experts what benefits magnetic levitation and linear motors could have on society and industry, and how they could contribute to sustainable objectives in transport. It is the International **MAGLEV** Board's mission to raise more awareness about the concept, importance and cost-effectiveness of **MAGLEV** systems.

Today we have 124 accepted abstracts and the final program has 66 full papers. Six keynote plenary speeches, 40 poster presentations and one plenary discussion ("hot chair") will complete the program.

The participants are coming from 22 countries and from all five continents even with representatives from Australia.

We also want to express our gratitude to the colleagues of the National Steering Committee, to the staff of the InnoTrans Team of Messe GmbH Berlin and the K.I.T. Group GmbH Dresden for their professional and kind support in organizing and promoting the **MAGLEV** conference.

Special thanks to the Leibniz Institute for Solid State and Materials Research at Dresden University and the whole team of Prof. Schultz and Mr. Berger for their presentation on the test facility „SupraTrans II“.

We warmly welcome you to our conference in Berlin, in a truly international city which never sleeps. We really hope you will enjoy your stay in Berlin.

For the National Steering Committee
Eckert Fritz, Johannes Klühspies, Michael Witt
 International **Maglev** Board
www.maglevboard.net

WELCOME MESSAGE FROM PROF. DR. HIROYUKI OHSAKI

(University of Tokyo, Japan)

On behalf of the International Steering Committee, I sincerely welcome you to the **MAGLEV** 2016 conference in Berlin, Germany. Since the first **MAGLEV** conference in Boston, USA in 1977, the 22 **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 23rd **MAGLEV** conference and the fifth conference held in Germany, which has contributed significantly to the progress of **MAGLEV** technology.

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 2016** conference will be held in Berlin in cooperation with InnoTrans 2016. I would be very happy to have you enjoy the conference, the rail industry event, and the stay in Berlin.

Hiroyuki Ohsaki

*Chair, International Steering Committee of **MAGLEV 2016***

CONFERENCE ORGANIZER

The International Maglev Board e.V. (IMB)

International Society for Maglev Transport

www.maglevboard.net

CONFERENCE CHAIRS

Prof. Dr. Johannes Klühspies (Munich, Germany), President of the International Maglev Board

Prof. Dr. Hiroyuki Ohsaki (Tokyo, Japan), Chairman of the International Steering Committee of

MAGLEV 2016

INTERNATIONAL STEERING COMMITTEE (ISC)

Prof. E. Masada (Japan), Honorary Chair and Doyen of the ISC

Prof. H. Ohsaki (Japan), President of the ISC

L. E. Blow (USA)

G. Coquery (France)

Prof. A. C. Ferreira (Brazil)

Prof. J. Klühspies (Germany)

Prof. G. Lin (China)

Dr. F. Loeser (Germany)

Dr. K. Nagashima (Japan)

Dr. B. C. Shin (Korea Republic)

N. Shirakuni (Japan)

Prof. R. M. Stephan (Brazil)

M. Witt (Germany)

Prof. K. Woronowicz (Canada)

LOCAL ORGANIZING COMMITTEE

General Chair, Technical Program & Media Chair: Prof. Dr. Johannes Klühspies (IMB)

Co –Chair, Technical Program & Social Visits: Michael Witt (IMB)

Financial Chair: Reiner Köhler (TKTR)

Industry Cooperation and Exposition Chair: Dr. Roland Kircher (Siemens)

Technical Visit Chair: Eckert Fritz (IMB)

Engineering Cooperation Chair: Ansgar Suding (Marx)

Project Management: Jörg Herrmann (K.I.T. Group)

REGISTRATION OFFICE

K.I.T. Group GmbH Dresden

Bautzner Str. 117–119

01099 Dresden, Germany

Phone: + 49 351 4842975

Email: info@kitdresden.de

Web: www.kit-group.org

CONFERENCE VENUE

Messe Berlin, East Entrance / Hall 14.2 & Hall 15.2 / Messedamm 22, 14055 Berlin

Please access the conference via the East Entrance – the fastest way to MAGLEV 2016 in the halls 14.2/15.2. You can reach this entrance easily by getting off at the train station ‘Westkreuz’ or ‘Messe Nord/ICC’.



S-Bahn stations: Messe Nord/ICC, Westkreuz

U-Bahn stations: Kaiserdamm, U-Bahnhof Theodor-Heuss-Platz

Bus Lines: X34, X49, M49, 104, 139, 218, 349

InnoTrans Shuttle-Busses: A number of exclusive bus routes will be available during InnoTrans 2016 (20.09. – 23.09.) to make getting to and from the fair as easy as possible. Detailed information: http://www.innotrans.de/en/Visitors/YourVisit/ArrivalDeparture/#travel_service_1-tab6

Taxis: The nearest taxi stand is located at the Entrance East, Hall 14/15 (Messedamm)

Pre-Orders:

Funk Taxi Berlin

Phone: +49 (0)30-261026,

+49 (0)800-0261026

Taxi-Ruf „City-Funk“

Phone: +49 (0)30-210202

Würfelfunk

Phone: +49 (0)30-210101,

+49 (0)800-2222255

FLOOR PLAN

HALL 15.2 B

LUNCH & SEATING AREA

HALL 15.2

OPENING CEREMONY
KEYNOTE SPEECHES
ORAL SESSIONS
PANEL SESSION

FOYER

REGISTRATION DESK
EXHIBITS
COFFEE BREAK
POSTER PRESENTATIONS

HALL 14.2

ORAL SESSIONS



CONFERENCE LANGUAGE

The official conference language is English. No simultaneous translation will be provided.

CLIMATE

The average daily temperature in Berlin for the month of September is between 15°C and 19°C, rain is possible.

REGISTRATION & INFORMATION DESK

The Registration Desk, where pre-registered attendees and on-site participants may pick up their conference materials, is located in the foyer area between the halls 14.2 & 15.2. Registration starts on Friday, September 23 at 11:00 o'clock.

OPENING HOURS REGISTRATION DESK

FRIDAY, SEPTEMBER 23: 11:00 – 18:00

SATURDAY, SEPTEMBER 24: 09:00 – 18:00

SUNDAY, SEPTEMBER 25: 09:00 – 14:00

NAME BADGE

Upon registration at the registration desk, participants will receive a name badge which allows entrance to the session rooms. All participants are asked to wear their badge visibly at all times.

DRESS CODE

The dress code for the entire **MAGLEV 2016** conference and for the InnoTrans fair is casual business attire.

CONFERENCE PROCEEDINGS

The conference full papers and/or abstracts will be available onsite at the conference on a USB memory stick (free of charge for all pre-registered participants).

CERTIFICATE OF ATTENDANCE

Certificates of attendance will be sent to every participant by e-mail after the conference has taken place.

REGISTRATION FEES

REGULAR PARTICIPANTS: 850 €

PENSIONERS/RETIREES, UNIVERSITY EMPLOYEES, NON-PROFIT ORGANIZATIONS: 420 €

STUDENTS: 150 € (proof required)

ACCOMPANYING PERSON (TICKET FOR GALA DINNER): 85 € (upon availability)

The conference fees include:

- ✓ access to the conference sessions and to the exhibition and poster area
- ✓ conference material (printed program booklet and proceedings on USB stick)
- ✓ free access to InnoTrans 2016
- ✓ coffee and snacks (Sept 23 – 25); lunch (Sept 24)
- ✓ attendance at the riverboat gala dinner (Sept 24)* (*except for students)
- ✓ option to buy the hardcover book of selected conference papers for a reduced price (65 €: sponsored conference price; later 98 €)

DAY-TICKETS

It will be possible to buy onsite at the registration desk day tickets at following prices:

REGULAR PARTICIPANTS: 250 €

PENSIONERS, UNIVERSITY EMPLOYEES, NON-PROFIT ORGANIZATIONS: 150 €

STUDENTS: 60 €

The day-tickets do not include: conference proceedings on USB-stick, attendance at the riverboat gala dinner.

CURRENCY

The currency unit is Euro (EUR). 1 EUR equals 1,16 US \$. A cash point can be found next to the Hall 14.1, close to the conference area. Credit Card machines are also available. You may exchange money at the travel bank at the airport, in the main train station or ask at the reception of your hotel for currency exchange.

INSTRUCTIONS FOR SPEAKERS AND CHAIRS

Laptops (Windows 7) and further conference infrastructure (video projection) is available in both halls. We would very much appreciate if you could make use of these laptops to minimize delays and to avoid technical interruptions. Technical staff is permanently available in the session rooms to assist you.

All presentations need to be submitted via USB memory stick directly at the session room. All files associated with one presentation (PowerPoint file, movie files etc.) should be saved to the same folder/location.

Speakers using MacBooks and/or the Keynote presentation software are kindly requested to export their presentation to the PowerPoint format. In case of problems, our technical staff will be glad to assist you in converting your files to the requested format. Speakers should provide the chairman a short cv.

If you are a **chairman**, please go to your session room in due time (at least 20 minutes prior to the start of the session). We kindly ask you to ensure that speakers strictly observe the time schedule.

If you are a **speaker**, please go to your session room in due time (at least 20 minutes prior to the start of the session). We expect you to submit your presentation in due time directly at the session room.

INSTRUCTIONS FOR POSTER PRESENTERS

All posters will be on display in the poster exhibition area from Friday, September 23 until Sunday, September 25.

There will be no guided poster tour. Authors are kindly requested to be present at their posters during the coffee/lunch breaks (see detailed program schedule).

Poster Guidelines:

- ✓ The poster must be in DIN A0 size, upright format. It should not exceed the following dimensions: 85 cm width, 119 cm height.
- ✓ Posters should be mounted on the first conference day before the conference begins and have to be removed directly at the end of the conference.
- ✓ Poster printing is NOT possible on-site. Please print your own poster in advance and hang it on the corresponding wall, which shows your poster number.
- ✓ To ensure visual effectiveness of your poster, use large lettering.
- ✓ Poster walls and fixing material to mount the poster on the wall will be provided and distributed on-site.

GALA DINNER ON RIVERBOAT

SATURDAY, SEPTEMBER 24 / 19:45 – 23:00

Enjoy a beautiful riverboat tour through downtown Berlin as the sun sets and the city lights illuminate. Berlin's stunning architecture. In the evening you have the unique opportunity to experience the city lights of Berlin from the water. On the journey you will hear interesting facts about the ancient and more modern history of Berlin. You will travel down the river Spree while enjoying a buffet and drinks onboard. The cruise is guided in English.

ITINERARY

- ✓ Start: **19:45**, Meeting Point at **Schloßbrücke** (Charlottenburger Ufer 1) (see map)
- ✓ **20:45**, Second stop at **Friedrichstraße** (Reichstagufer 18) (see map): enter here if this stop is more convenient for you
- ✓ Cruise through Berlin
- ✓ End approximately at 23:00, **Schloßbrücke** (Charlottenburger Ufer 1)



From the Messe Berlin you can reach the Schloßbrücke with the U-Bahn (metro): take the U2 at "Kaiserdamm", change at "Bismarckstraße" and take the U7 getting off at "Richard-Wagner-Platz". Alternatively you can go to the Schlossbrücke by foot (ca. 40–45 minutes)



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TECHNICAL EXCURSION TO DRESDEN

**VISIT OF THE TEST FACILITY SUPRATRANS II
MONDAY, SEPTEMBER 26 / 09:00 – 18:00**



ITINERARY

- ✓ Departure: **09:00 am** at Messe Berlin, Messedamm 10
Bus stop in front of the hotel IBIS
The bus has the color blue and the bus company name is "Dr. Herrmann".
In order to avoid delays, please make sure to arrive 15 minutes before the departure time
- ✓ Arrival in Dresden (ca. 11:30)
- ✓ Lunch at the university canteen
- ✓ Presentation of SupraTrans (ca. 13:00)
- ✓ Test ride
- ✓ Departure from Dresden, approximately 15:30 – 16:00
- ✓ Arrival in Berlin at ca. 18:00 / 18:30 (Stop at Berlin airports, Berlin main station if requested)

Price: 50.00 € (bus shuttle and lunch included)

Please find detailed information concerning the SupraTrans II online:

<http://www.ifw-dresden.de/institutes/imw/research/functional-oxide-layers-and-superconductors/supratrans-ii/>

INNOTRANS INNOVATIONS TOURS

Prior to the conference (from September 20th to September 22nd), MAGLEV 2016 participants can experience innovations individually or through daily innovation tours offered at InnoTrans 2016. Senior company representatives are on hand to welcome participants to stands, where they can discover everything about innovations and world premieres at InnoTrans 2016. Public transport is free from September 20th to September 23rd.

Tours are offered several times a day and last around 90 minutes. Visitors from outside of Germany are provided with headsets for simultaneous translations into English. Every participant receives a hand-out summarizing the most important facts about the innovations viewed.

PLEASE NOTE: Tour registrations have to be made directly onsite at the InnoTrans fair at the information desk of the Business Centre (Marshall-Haus building).

RAILWAY TECHNOLOGY I

- ✓ Tuesday, 20.09.2016, 13:00, Start: CityCube Berlin, Entrance Messedamm
- ✓ Wednesday, 21.09.2016, 10:00, Start: CityCube Berlin, Entrance Messedamm
- ✓ Thursday, 22.09.2016, 10:00, Start: CityCube Berlin, Entrance Messedamm

RAILWAY TECHNOLOGY III (ENERGY & ELECTRICAL ENGINEERING)

- ✓ Tuesday, 20.09.2016, 15:30, Start: Hall 9
- ✓ Wednesday, 21.09.2016, 15:00, Start: Hall 9
- ✓ Thursday, 22.09.2016, 15:00, Start: Hall 9

INFRASTRUCTURE/TUNNEL CONSTRUCTION

- ✓ Tuesday, 20.09.2016, 13:00, Start: Passage Hall 20/21
- ✓ Wednesday, 21.09.2016, 10:00, Start: Passage Hall 20/21
- ✓ Thursday, 22.09.2016, 10:00, Start: Passage Hall 20/21

PUBLIC TRANSPORT/INTERIORS

- ✓ Tuesday, 20.09.2016, 15:30, Start: Entrance South
- ✓ Wednesday, 21.09.2016, 15:00, Start: Entrance South
- ✓ Thursday, 22.09.2016, 15:00, Start: Entrance South

GENERAL OVERVIEW: TOPICS OF MAGLEV CONFERENCES

MAGLEV PROJECTS, IMPLEMENTATIONS AND IMPACTS

- ✓ High-Speed Maglev: Studies, Projects and Operation Results
- ✓ Urban Maglev: Studies, Projects and Operation Results
- ✓ Freight Maglev: Studies, Projects and Operation Results
- ✓ Impacts on Spatial and Regional Development, Transport Geography, GIS
- ✓ Architecture, Urban Planning and Design Issues (stations, guideways, vehicles)
- ✓ Marketing and Transport Psychology Issues (comfort demand, travel time, human factors)
- ✓ Environmental and Health Issues (electromagnetic fields, noise, vibrations, earthquakes)
- ✓ Innovative Spin-off use (military use, marine systems, sportive devices)
- ✓ History of Maglev Development (worldwide)
- ✓ Standardization Issues.

MAGLEV TECHNOLOGICAL RESEARCH AND DEVELOPMENT

- ✓ Magnetic Levitation and Guidance
- ✓ Linear Motors
- ✓ Guideway and Infrastructure Technologies
- ✓ Energy Storage and Supply
- ✓ Reliability, Safety and Operational Control
- ✓ Magnetic Elevators and Escalators
- ✓ Magnetic Bearings, Maglev Wind Turbines
- ✓ Superconductors, Application of Superconductivity
- ✓ New Ideas on Levitating Device Applications
- ✓ Focus Topics.

CONFERENCE PROGRAM

LEGEND

=	Key notes, Statements, Joint sessions and Special Events	A. XX	=	Maglev Technological Research and Development Sessions	B. XX	=	Planning and Application of Maglev Technologies Sessions	Exhibit Area	=	Poster Sessions and Presentation of exhibits.
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TUESDAY / 20.09.2016	
13:00	RAILWAY TECHNOLOGY I (Start: CityCube Berlin, Entrance Messedamm)
15:30	RAILWAY TECHNOLOGY III (ENERGY & ELECTRICAL ENGINEERING) (Start: Hall 9)
13:00	INFRASTRUCTURE/TUNNEL CONSTRUCTION (Start: Passage Hall 20/21)
15:30	PUBLIC TRANSPORT/INTERIORS (Start: Entrance South)

WEDNESDAY / 21.09.2016	
10:00	RAILWAY TECHNOLOGY I (Start: CityCube Berlin, Entrance Messedamm)
15:00	RAILWAY TECHNOLOGY III (ENERGY & ELECTRICAL ENGINEERING) (Start: Hall 9)
10:00	INFRASTRUCTURE/TUNNEL CONSTRUCTION (Start: Passage Hall 20/21)
15:00	PUBLIC TRANSPORT/INTERIORS (Start: Entrance South)

THURSDAY / 22.09.2016	
10:00	RAILWAY TECHNOLOGY I (Start: CityCube Berlin, Entrance Messedamm)
15:00	RAILWAY TECHNOLOGY III (ENERGY & ELECTRICAL ENGINEERING) (Start: Hall 9)
10:00	INFRASTRUCTURE/TUNNEL CONSTRUCTION (Start: Passage Hall 20/21)
15:00	PUBLIC TRANSPORT/INTERIORS (Start: Entrance South)

FRIDAY / 23.09.2016									
HALL 14 / 2					HALL 15 / 2				
09:00 – 09:20									
09:20 – 09:40		HTT HYPERLOOP INNOTRANS BOOTH RECEPTION	On InnoTrans fairgrounds	Hall 20 / 100					
09:40 – 10:20									
10:20 – 10:40		TRANSPOD (Hyperloop) INNOTRANS BOOTH RECEPTION	On InnoTrans fairgrounds	Hall 2.2 / 401					
10:40 – 11:00									
11:00 – 11:20		HYPERLOOP ONE INNOTRANS BOOTH RECEPTION	On InnoTrans fairgrounds	Hall 3.2 / 201	from 11:00	Participants Registration		Participants Registration	
from 11:00		Participants Registration			11:00 – 12:00	WELCOME COFFEE & SNACKS		EXHIBIT AREA	
12:00 – 12:15					12:00 – 12:15	OPENING CEREMONY Chairs: Dr. Johannes Klühspies; Dr. Hiroyuki Ohsaki			
12:15 – 12:30					12:15 – 12:30	STATEMENT The (Hyperloop -) TransPod System		Gendron, Sebastien / Canada	
12:30 – 12:45					12:30 – 12:45	STATEMENT The HTT Hyperloop System		Bibop G. Gresta / USA	
12:45 – 13:00					12:45 – 13:00	STATEMENT Hyperloop One		James, Alan / USA	
13:00 – 13:20		EXHIBIT AREA			13:00 – 13:20	OPENING OF THE EXHIBIT AREA EXHIBITS AND POSTERS		EXHIBIT AREA	
13:20 – 13:40		Key Note 1 →			13:20 – 13:40	Key Note 1	The strategy of development of magnetic levitation transport technologies in Russia	Zaitcev, Anatoly / Russia	
13:40 – 14:00		EXHIBIT AREA			13:40 – 14:00		EXHIBITS AND POSTERS	EXHIBIT AREA	
		CHAIR: ROLAND KIRCHER (SIEMENS)				CHAIR: FRIEDRICH LÖSER (TKTR)			
14:00 – 14:20	A.01	High-precision magnetic levitation transport system	Ha, Chang-Wan / Korea Rep.		14:00 – 14:20	B.01	Status of maglev projects in North America	Blow, Laurence / United States	

HALL 14 / 2			
14:20 – 14:40	A.02	Experimental study on bending vibration evaluation in a test stand for maglev vehicles	Kabutomori, Masashi / Japan
14:40 – 15:00	A.03	Fundamental Study on Effect of Gap Reduction on EDS and LSM Characteristics of Superconducting Maglev Vehicles	Yonezu, Takenori / Japan
15:00 – 15:20	A.04	Numerical Analysis of UAQ4 maglev bogie dynamic suspension at standstill	D’ovidio, Gino / Italy
15:20 – 15:40	COFFEE BREAK & POSTER SESSION IN EXHIBIT AREA		
CHAIR: ECKERT FRITZ (IMB)			
15:40 – 16:00	A.05	Static Suspension Device Used in Permanent Magnet Electrodynamic Suspension Vehicle	Zhang, Wenlong / China
16:00 – 16:20	A.06	The stator winding with the inclined rounds. Possible applications	Sundukov, Evgeny / Russia
16:20 – 16:40	A.07	Development of automated procedures for simulation based propulsion rating of high speed maglev	Körner, Sven / Germany
16:40 – 17:00	BREAK & POSTER SESSION IN EXHIBIT AREA		
CHAIR: RICHARD STEPHAN (IMB)			
17:00 – 17:20	A.08	Study on the Gap Holding Mechanisms of Eddy-Current Rail Brakes by Attractive Force Control	Yoda, Hiroshi / Japan
17:20 – 17:40	A.09	Superconducting Levitation: SupraTrans and Hoverboards	Schultz, Ludwig / Germany
17:40 – 18:00	A.10	Cross Layout Dual Halbach Arrays using Cylinder Shaped Permanent Magnets	Suzuki, Haruhiko / Japan
from 18:20	INDIVIDUAL EVENING EVENTS OF THE SPECIAL INTEREST GROUPS International Steering Committee (ISC), Transrapid Old Fellows, et.al ...		

HALL 15 / 2			
14:20 – 14:40	B.02	Application and Development of Maglev Transportation in China	Zhou, Xiaoming; Lin, Guobin / China
14:40 – 15:00	B.03	The Experimental Line of the Maglev-Cobra Project for Urban Transportation	Stephan, Richard / Brazil
15:00 – 15:20	B.04	High-Speed Maglev in the Netherlands; Lessons for Rail	van Gessel, Wouter; van Welsenis, Kees / Netherlands
15:20 – 15:40	COFFEE BREAK & POSTER SESSION IN EXHIBIT AREA		
CHAIR: LAURENCE E. BLOW (IMB)			
15:40 – 16:00	B.05	Accessibility impact of the opening of Chuo Maglev Shinkansen in Japan and its route decision problem	Tanaka, Koichi / Japan
16:00 – 16:20	B.06	Magplane Hi-Speed Maglev Revisited	Montgomery, D. Bruce; Fang, J. / USA
16:20 – 16:40	B.07	Transit Linear Induction Motors – theory, analysis, controls, FEA, benefits and application	Woronowicz, Konrad / Canada
16:40 – 17:00	BREAK & POSTER SESSION IN EXHIBIT AREA		
CHAIR: MICHAEL WITT (IMB)			
17:00 – 17:20	B.08	Disruptive Technologies and their Long Term Perspectives – The Maglev Case	Klühspies, Johannes / Germany
17:20 – 17:40	B.09	Transportation as an engineering system – [...] innovative architectures to satisfy current and future needs	Bourquin, Vincent / Switzerland
17:40 – 18:00	B.10	Efficiency of the complex optimization of maglev-systems	Frishman, E., Lascher, A / Israel / Germany

SATURDAY / 24.09.2016			
Hall 14 / 2			
09:30 – 10:00			
10:00 – 11:20			
11:20 – 11:40			
11:40 – 12:00		Key Note 2 →	
12:00 – 12:20		Key Note 3 →	
12:20 – 12:40		Key Note 4 →	
12:40 – 13:40	LUNCH BREAK		
	CHAIR: REINER KÖHLER (TKTR)		
13:40 – 14:00	A.12	Design of Guideway Switch in Changsha Medium and Low-speed Maglev Project	Zeng, Guo Feng; Yuan, Yi Hong / China
14:00 – 14:20	A.13	Safety Assessment Approach for Onboard ATP subsystem of Low-speed Maglev system	Yungen, Fang / China
14:20 – 14:40	A.14	The application research on lithiumion battery used on low speed maglev train	Liao, Zhiming / China
Hall 15 / 2			
09:30 – 10:00		POSTER SESSION IN EXHIBIT AREA	
		CHAIR: LAURENCE E. BLOW (IMB)	
10:00 – 11:20		PANEL SESSION: (HOT CHAIR) Hyperloop: Science experiment or the future of travel? Moderator: Laurence E. Blow, Internat. Maglev Board <ul style="list-style-type: none"> • Alan James, Hyperloop One • Bibop G. Gresta, Hyperloop Transportation Tech. Inc. • Sebastien Gendron, Transpod. Inc. • Mariana Avezum , WARR Hyperloop • Juan Vicén, Hyperloop UPV Team 	
11:20 – 11:40		COFFEE & POSTER SESSION IN EXHIBIT AREA	
		CHAIR: HIROYUKI OHSAKI (UNIVERSITY OF TOKYO); JOHANNES KLÜHSPIES (IMB)	
11:40 – 12:00	Key Note 2	The new Incheon International Airport Maglev Line	Shin, Byung Chun / Korea Rep.
12:00 – 12:20	Key Note 3	Ten years commercial operation of LINIMO (HSST System) in Aichi Pref., Japan	Niimi, Motonori / Japan
12:20 – 12:40	Key Note 4	Development of a High Speed Maglev in South-Korea	Han, Hyung-Suk / Korea Rep.
12:40 – 13:40	LUNCH BREAK & POSTER SESSION IN EXHIBIT AREA		
	CHAIR: RICHARD STEPHAN (IMB)		
13:40 – 14:00	B.12	Medium Speed Urban / Intercity Maglev Development	Wieler, James G. / USA
14:00 – 14:20	B.13	ACCEL - new Technology of a People Transportation System	Frantzheld, Jürgen / Germany
14:20 – 14:40	B.14	Economic features of maglev transport	Smirnov, Sergei / Russia

HALL 14 / 2			
14:40 – 15:00	A.15	Mandatory Vehicle Performance Tests of the Urban Maglev ECOBEE	Han, Hyung-Suk / Korea Rep.
15:00 – 15:20	BREAK & POSTER SESSION IN EXHIBIT AREA		
15:20 – 15:40		Key Note 5 →	
15:40 – 16:00		Key Note 6 →	
16:00 – 16:20	COFFEE BREAK & POSTER SESSION IN EXHIBIT AREA		
		CHAIR: LAURENCE E. BLOW (IMB)	
16:20 – 16:40	A.16	Development of A Novel Inductive Power Transfer System for Maglev Vehicle	Shi, Liming / China
16:40 – 17:00	A.17	The protection Strategy study of DC power system for urban maglev transport system	Lianfu, Tang / China
17:00 – 17:20	A.18	The Battery Management System for Urban Maglev Train	Wen, Ji / China
17:20 – 17:40	A.19	Cryogenic cooling system for high-temperature superconductors of the 2nd generation for Maglev-transport	Krasnov, Anton / Russia
17:40 – 18:00	A.20	Analysis of a Linear Flux Switching Motor for Maglev Transportation Systems	Abdollahi, Seyed Ehsan / Iran
19:45		GALA DINNER BOAT TOUR BERLIN	

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		CHAIRS: HIROYUKI OHSAKI (UNIVERSITY OF TOKYO); JOHANNES KLÜHSPIES (IMB)	
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15:40 – 16:00	Key Note 6	MULTI - new Technology of a People Transportation System	Löser, Friedrich /Germany
16:00 – 16:20	COFFEE BREAK & POSTER SESSION IN EXHIBIT AREA		
		CHAIR: MICHAEL WITT (IMB)	
16:20 – 16:40	B.16	A new Linear Motor Driven MagTrack System	Fang, Jiarong / USA
16:40 – 17:00	B.17	A new concept for maglev transportation	Baker, Kenneth / USA
17:00 – 17:20	B.18	Multidimensional Examination of Performances of the Future Advanced Transport Systems: The Case of ETT (Evacuated Tube Transport)	Janic, Milan / Netherlands
17:20 – 17:40	B.19	Eurorapid - Maglev for freight - A solution of infrastructure improvement for Germany	Tang, Ulrich / Germany
17:40 – 18:00	B.20	Optimization of maglev-systems for determination of the scope of their effective application.	Lascher, Arkadij / Germany
		(SEE PAGE 12 FOR DETAILED INFORMATION)	

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10:20 – 10:40	A.22	Control of the parameters of objects moving with high velocities	Krylov, Aleksey / Russia
10:40 – 11:00	A.23	Study on the Optimal Slip Frequency Control of Maglev Linear Induction Motor	Liu, Xijun / China
11:00 – 11:20	A.24	Electromagnetic interference analysis in the environment around train borne wireless transceiver of medium-low speed maglev system	Zhang, Fangqi; Wang, Shaoyin / China
11:20 – 11:40	COFFEE BREAK & POSTER SESSION IN EXHIBIT AREA		
		CHAIR: HIROYUKI OHSAKI (UNIVERSITY OF TOKYO)	
11:40 – 12:00	A.25	Development of a Dual Levitation Controller of Maglev Train	Kim, Chang-Hyun / Korea Rep.
12:00 – 12:20	A.26	Aspects of Inductive Charging in Transport	Eiler, Kenji / Germany
12:20 – 12:40	A.27	Development of flywheel energy storage system using magnetic bearing composed of HTS coils and bulks	Miyazaki, Yoshiki / Japan
12:40 – 13:00	A.28	Fabrication of a Real-scale Superconducting Coil Using REBCO Coated Conductor for the Maglev	Mizuno, Katsutoshi / Japan
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		CHAIR: REINER KÖHLER (TKTR)	
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10:20 – 10:40	A.30	Seismic Mechanism Research of The High-Speed Maglev Vehicle-Rail System	Huang, Jingyu / China
10:40 – 11:00	A.31	System with Simulink Autocode Generator	Yaseen, Mundher / Turkey
11:00 – 11:20	A.32	Saving money with Maglev. An urban transport revolution	Delle Site, Vincenzo; Cavagnaro, Maurizio / Italy
11:20 – 11:40	COFFEE & POSTER SESSION IN EXHIBIT AREA		
		CHAIR: JOHANNES KLÜHSPIES (IMB)	
11:40 – 12:00	B.21	German Maglev projects: Aspects and comments from an engineer's point of view	Fritz, Eckert / Germany
12:00 – 12:20	B.22	Maglev Station Planning: key design principles for successful integration with existing railway hubs.	Rodriguez, César / Spain, UK
12:20 – 12:40	B.23	Is a bidirectional global backbone maglev passenger-freight railway, circumnavigating our planet, viable?	Broadbent, David / Australia
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P-A.02	Saving money with Maglev. An urban transport revolution.	Cavagnaro, Maurizio	Delle Site, Vincenzo
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P-A.08	Design and Evaluation of Prototype High-Tc Superconducting Electromagnet for Linear Synchronous Motor	Lee, Chang-Young	
P-A.09	Research on the influence of track irregularities on the levitation control system of a traveling maglev train	Zhou, Danfeng	Cui, Peng
P-A.10	The challenge of a passive crossover of a superconducting levitation transport model system	Rosenzweig, Stephan	
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P-A.12	Preliminary Design of The Magplane MagTrain System	Fang, Jiarong	

P-A.13	Research on Control Methods of Maglev Permanent Magnet Linear Synchronous Motor	You, Chaochao	
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P-A.17	Practice of Alignment Maintenance for Shanghai Maglev Demonstration Line	Zhu, Zhi Wei	
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	Conference Documents (USB)	Free Access to InnoTrans 2016	InnoTrans Innovation Tours	Lunch 24.9.2016; Snacks, Coffee 23 – 25.9.	Gala Event 24.9.2016	Tech. Excursion SupraTrans Dresden (50 €)	Free Use of Public Transport in Berlin (Tuesday 20.9. – Friday, 23.9)	Reduced price for hardcover publications of selected conference papers
Regular online registration fee: 850 €	✓	✓	✓	✓	✓	X	✓	✓
Pensioners/retirees, university employees, Non-profit organizations: 420 €	✓	✓	✓	✓	✓	X	✓	✓
Students: 150 €. This rate is valid for university students who can provide proof of their student status.	✓	✓	✓	✓	X	X	✓	✓
Day-Tickets: Regular Participants: 250 € Pensioners, University Employees, Non-Profit Organizations: 150 € Students: 60 €	X	✓	✓	✓	X	X	✓	✓

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