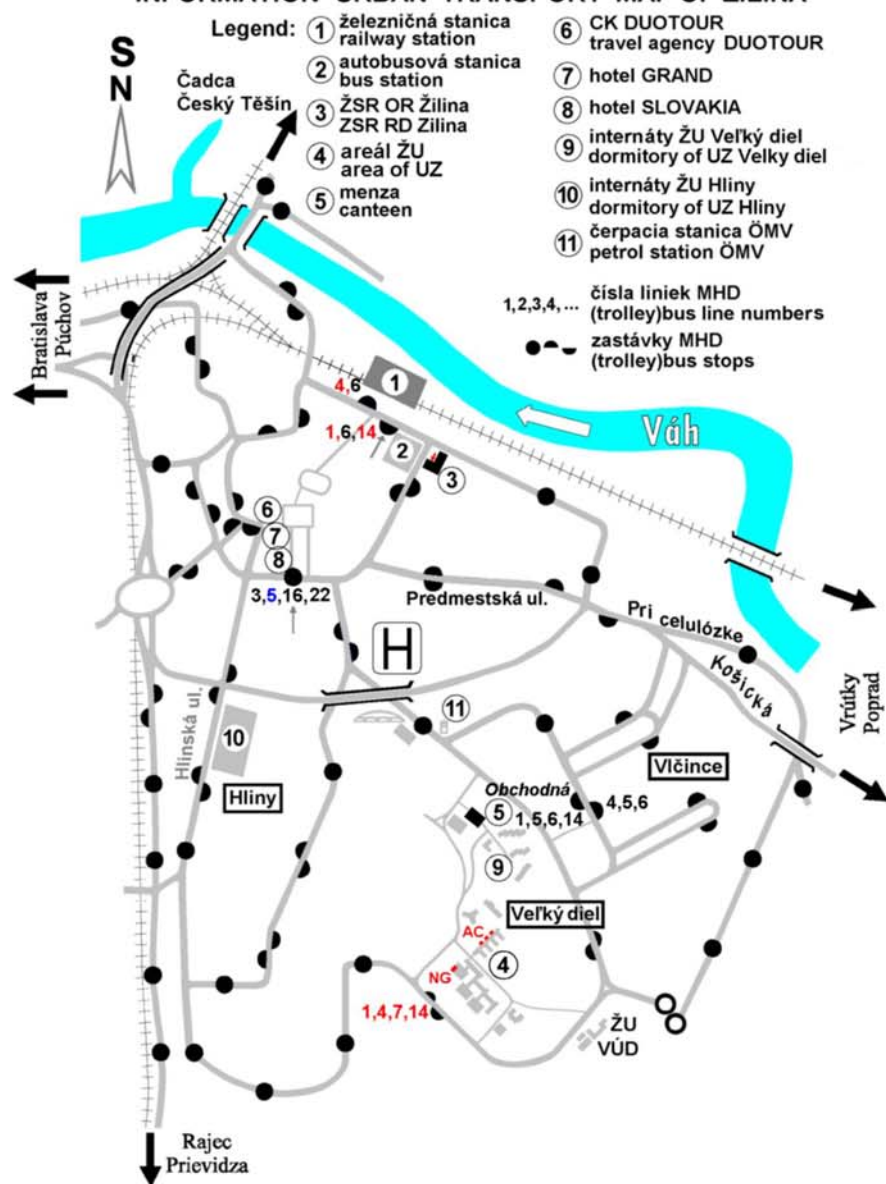


ORIENTAČNÁ MAPA MHD ŽILINY
INFORMATION URBAN TRANSPORT MAP OF ŽILINA



VEDECKO-TECHNICKÁ SPOLOČNOSŤ PRI
ŽILINSKEJ UNIVERZITE V ŽILINE
SCIENTIFIC AND TECHNICAL SOCIETY AT
THE UNIVERSITY OF ŽILINA



XX. MEDZINÁRODNÁ KONFERENCIA
SÚČASNÉ PROBLÉMY V
KOĽAJOVÝCH VOZIDLÁCH

20th INTERNATIONAL CONFERENCE
CURRENT PROBLEMS
IN RAIL VEHICLES



POZVÁNKA

INVITATION

ŽILINA 21. - 23. 9. 2011, SLOVENSKO
ŽILINA SEPTEMBER 21 - 23, 2011, SLOVAKIA

SPONZORI KONFERENCIE PRORAIL 2011
SPONSORS OF THE CONFERENCE PRORAIL 2011



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XX. medzinárodná konferencia "Súčasný problémy v koľajových vozidlách - PRORAIL 2011" sa koná v rámci medzinárodného týždňa aktivít v odbore železničnej techniky **RAILINFORM 2011**. Okrem tejto konferencie sa budú v rámci RAILINFORM 2011 konať aj tieto akcie:

ŽEL-RAIL 2011, XI. medzinárodná výstava výrobkov a služieb pre potreby železníc a koľajovej dopravy, Vrútky 20. - 23. 9. 2011,

Konferencia Európskej únie, Vrútky - Areál výstavniska ŽEL-RAIL 21. 9. 2011.

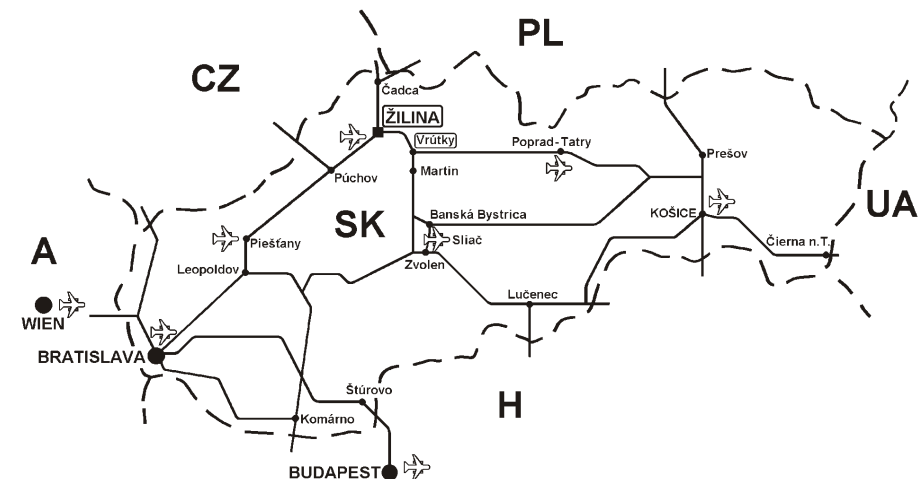
The 20th International Conference "Current problems in rail vehicles - PRORAIL 2011" is an integral part of the international week of activities in the area of rail industry and railway technology RAILINFORM 2011. The following events will take place in the frame of the RAILINFORM 2011 parallelly to this Conference:

ŽEL-RAIL 2011, 11th International exhibition of products and services for the railways and rail transport, Vrútky, September 20 - 23, 2011,

European Union Conference, Vrútky - ZEL-RAIL Exhibition Grounds, September 21, 2011.

Ďalšie informácie further Information

<http://www.zel-rail.sk>



Fees include only printing of advertisements delivered in the suitable form. Black&white or two color advertisements should be delivered in electronical form (WordPerfect, MSWord, AmiPro) including pictures (*.pcx, *.cdr, *.bmp, *.ppl, *.wpg) and/or in printed form. Full color advertisement should be delivered in the form of sheet films for decomposed colors or in a camera ready form or in an electronical form. All additional expenses connected with necessary treatment of advertisement will be charged in addition to base fees stated before.

It is possible to exhibit some smaller products in mini-exhibition, which will be in the area adjacent to the Conference rooms. For this purpose tables and chairs will be provided. Panels for leaflet displaying, texts, pictures, photos etc. will be available too.

Fees for this ways of presentation are as follows:

Table or panel	65 EUR,
Exhibition of your own panel	45 EUR,
Free exhibition area	45 EUR/1 m ² .

If you are interested in advertising of your company in the Conference PRORAIL 2011, please fill in enclosed order and send it (including text and pictures of advertisement) **no later than on August 29, 2011** to address:

Prof. Ing. Daniel KALINČÁK, PhD.

VTS pri Žilinskej univerzite

Univerzitná 1

010 26 ŽILINA

SLOVAKIA

Phone: +421 (0)41 513 2650, Fax: +421 (0)41 5254 440, mobil: +421 (0)907 586 005, e-mail: daniel.kalincak@fstroj.uniza.sk.

If you order advertisement, we will send you one free copy of Proceedings of the Conference PRORAIL 2011 till the end of October 2011.

Scientific and Technical Society at the University of Žilina
Faculty of Mechanical Engineering of the University of Žilina
The Jan Perner Transport Faculty of the University of Pardubice
with aid of companies of group ŠKODA TRANSPORTATION

INVITATION

for 20th International Conference CURRENT PROBLEMS IN RAIL VEHICLES PRORAIL 2011



under the auspices of

Deputy Prime Minister and Minister of Transport, Construction and
Regional Development of the Slovak Republic

Ing. Ján FIGEL',

Rector of the University of Zilina

Prof. Ing. Tatiana ČOREJOVÁ, Ph.D.,

Chairman of the Board of Directors and Director General of Railway
Company Slovensko, j.s.c.

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Prof. Dr.Sc. István ZOBORY, Faculty of Transportation Engineering, BUTE Budapest, HU

Organizing Committee

Chairman:

Ing. Dalibor BARTA, Ph.D., Faculty of Mechanical Engineering, University of Žilina, Univerzitna 1, 010 26 ŽILINA, Phone.: +421 41 513-2654, Fax: +421 41 5253 016, M.: +421 918 663 371, e-mail: dalibor.barta@fstroj.uniza.sk.

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Ing. Ján PALUCH, Faculty of Mechanical Engineering, University of Žilina, SK

Conference languages:

Slovak, Czech, English.

Hotel GRAND***+ Žilina

- is situated right in the historic town centre. In hotel there is newly opened Grand wellnesclub.

Price (accommodation including breakfast, Wellnesclub, WIFI)

single room LUX	76,- €
double room LUX	109,- €

Hotel SLOVAKIA*** Žilina

- is situated in the city centre. The hotel has a night bar, swimming pool, sauna, solarium.

Price (accommodation including breakfast)

single room	40,- €
double room	60,- €

Hotel ASTORIA*** Žilina

Astoria Hotel is located in the prestigious location in the centre of the old town of Žilina, close to cultural and shopping centre.

Price (accommodation including breakfast, internet)

single room	50,- €
double room	83,- €.

In case of cancellation the order, CK DUOTOUR charges these storno-taxes:

till 30 days before arrival -	without tax
29 - 10 days before arrival -	30% of calculated price
9 - 5 days before arrival -	50% of calculated price
4 - 2 days before arrival -	80% of calculated price
less than 2 days and no cancelled orders -	100% of calculated price.

ADVERTISING

We are preparing the 20th International Conference „Current Problems in Rail Vehicles - PRORAIL 2011“, which will take place at the University of Žilina in September 21 - 23, 2011. Usually about 250 specialists from the Slovak Republic, the Czech Republic and other countries (e.g. Austria, Germany, Hungary, Lithuania, Poland, Russia, Switzerland, Ukraina etc.) participate at the Conference.

We offer to Your company possibility to advertise your products and services in the Proceedings of the Conference. The Proceedings will be printed in format B5 (176 x 250 mm). Fees for one page advertisement in the Proceedings are:

black&white page	90,- €
two color page	140,- €
full color page	220,- €.

Payment instructions. All payments should be made NET of bank charges

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20th INTERNATIONAL CONFERENCE
**CURRENT PROBLEMS IN RAIL
VEHICLES - PRORAIL 2011**
September 21 - 23, 2011, Žilina, Slovakia

ENCLOSURES



DUOTOUR

Sládkovičova 13, 010 01 ŽILINA

tel. / fax : ++421/41/56 244 24

E-mail : duotour@nexta.sk

DUOTOUR, travel agency offers and secures accommodation for participants of the Conference in hotels:

Hotel DUBNÁ SKALA** Žilina**

Hotel Dubna Skla is the first four-star boutique hotel, located in the historic city centre of Žilina

Price (accommodation including breakfast, parking, internet)

single room 115,- €

double room 145,- €

PALACE hotel POLOM**+ Žilina**

Exclusive hotel, which has a century tradition. Hotel is situated in the town city centre.

Price (accommodation including breakfast, parking, internet, sauna)

single room 115 EURO

double room 145 EURO

Hotel BOSS** Žilina**

New hotel is situated in the historical city centre near hotel SLOVAKIA.

Price (accommodation including breakfast, parking)

single room 77,- €

double room 102,- €

Conference objectives:

The conference is organized for railway workers, urban transport and factory transport workers, manufacturers and users of rail vehicles and their components, research, development workers, designers, university staff and all people interested in research, development, design, technology, materials, operation and maintenance of rail vehicles.

The aim of the conference is to bring information to participants about state and perspectives of development in field of rail vehicles in broad sense from theoretical achievements, through design, testing, production technologies, material engineering, maintenance to practical operational experience.

Lectures of the conference are held in three rooms in the building AC of the University of Žilina (with exception of opening ceremony and plenary session which will be in the building NG). Lectures are divided into parallel sessions according to their specialization:

Session A - lectures devoted to theoretical problems and experimental methods,

Session B - lectures devoted to design of rail vehicles and their subsystems,

Session C - lectures devoted to legislation, ecology, operation and maintenance, braking systems, technology and materials.

Organizers are pleased to thank the Companies of SKODA TRANSPORTATION group for support of the Conference.

Organizers are pleased to thank the sponsors of the Conference:

Electrotechnical research and projecting Company j.s.c., Trenčianska 19, 018 51 Nová Dubnica, SK

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TC INTER-INFORMATICS, Ltd., Žilinská 790/17, 017 01 Považská Bystrica, SK,

and other companies which supported the Conference in different way.

PROGRAMME

September 20, 2011 - Tuesday

- **16.00 - 20.00 Registration of participants** at building of the Regional Directorate of ŽSR, 1. Maja str., No 34

September 21, 2011 - Wednesday

- **from 7.30** Registration of participants in block NG, University Campus - Veľký diel
- **9.30 - 10.30** Opening ceremony (lecture hall NG 1)

Opening Speeches

Opening speeches of representatives of Ministry of Transport, Construction and Regional Development of Slovak Republic, Railway Company Slovensko, j.s.c., Railway Company Cargo Slovakia, j.s.c., University of Žilina and Jan Perner Transport Faculty, Univerzity of Pardubice.

- **10.30 - 10.50** Break
- **10.50 - 11.30** Plenary session

HEPTNER Tomáš, Ing., MALKOVSKÝ Zdeněk, Ing., VÚKV j.s.c. Praha, CZ
Impacts of EC legal regulations and European norms to the design and approval process of rail vehicles

BOSÁČEK Jozef, Ing., České dráhy, a.s., Praha, CZ
The comparison of legislation for rail and road vehicles

- **11.30 - 12.50** Presentation of companies

ŠKODA TRANSPORTATION j.s.c., Pilsen, CZ
ŠKODA VAGONKA j.s.c., Ostrava CZ
EVPÚ j.s.c., Nová Dubnica, SK
TC INTER-INFORMATICS, Ltd., Považská Bystrica, SK
GREENWOOD ENGINEERING A/S, Brøndby, Denmark
TATRAVAGÓNKA, j.s.c., Poprad, SK
HBP Měřicí technika, Ltd., Praha, CZ
EBERSPÄCHER PRAHA, Ltd., CZ

- **12.50 - 14.15** Lunch

● Afternoon work in sessions (Block AC)

✘ Session A, September 21, 2011

- **14.15 - 15.55** Lectures

FRIDBERG Arkady, Electric Rolling Stock Repair Plant, ZREPS j.s.c., Moscow, RU
New version of the friction and adhesion theory

LACK Tomáš, Assoc. prof., Ing., Ph.D., GERLICI Juraj, prof., Dr.Ing., FME, Univerzity of Žilina, SK

Contact stresses between railway wheel and rail computation by means of strip method time optimized procedure

HARUŠINEC Jozef, Ing., Ph.D., GERLICI Juraj, prof., Dr.Ing., LACK Tomáš, Assoc. prof., Ing. Ph.D., FME, Univerzity of Žilina, SK

Contact stress between railway wheel and rail head analysis with the help of the Finite element method

BACIŠIN Matúš, Ing., LACK Tomáš, Assoc. prof., Ing., Ph.D., GERLICI Juraj, prof., Dr.Ing., FME, Univerzity of Žilina, SK

Railway wheel tread and rail head profiles geometry transformations for geometric characteristics under non-zero angle of attack analysis

ORGANIZATIONAL INSTRUCTIONS

Conference venue: The Conference will be held at the auditoria **NG** and **AC** of the University of Žilina, Veľký diel from September 21 to September 23, 2011.

Registration of participants: September 20, 2011 16.00 - 20.00 at the building of the Regional directorate Žilina of ŽSR, 1. Maja str., No 34.

September 21, 2011 from 7.30 in block „NG“ at University Campus at Veľký diel

Transport: - to **registration in the RD ŽSR**, which is about 200 m from the railway station on left hand side, you can walk (see the map);

- to **registration and conference sessions in blocks NG and AC** you can take trolleybus No 4, stop at the railway station - direction to the housing estate "Hliny" and „Vlčince“, and get off at bus stop „Žilinská univerzita“. For more detailed information about mass transport in Žilina see <http://www.dpmz.sk/>.

Registration information: Please fill in the enclosed **Obligatory Application** form and mail it by **August 31, 2011** to the address:

Prof. Ing. Daniel Kalinčák, PhD.

VTS pri ŽU

Univerzitná 1, 010 26 ŽILINA, SLOVAKIA

Phone.: +421 41 513 2650, Fax: +421 41 5254 440, mobile: +421 907 586 005,

e-mail: daniel.kalincak@fstroj.uniza.sk.

Accommodation: Reservations in the hotels are booked by travel agency DUOTOUR (see enclosed application form for the accommodation), or individually (<http://www.hotel.sk/>, <http://www.limba.sk/>).

Food: Lunches on September 21 and 23 are in the canteen of the University Campus, lunch on September 22 is in Vrútky. Price per lunch is 5,- €.

Social evening: Evening reception will be on September 21, 2011 at 19.00 in the canteen of the University Campus. Payment for evening reception is 7,- €.

Conference fee: Conference fee is **100,- €** (if payment is made by bank transfer) or **(110,-+ €)** if conference fee is paid in cash at registration. **One of authors of each paper pay** reduced conference fee **80,- €** (payment by bank transfer) or **90,- €** if it is paid in cash. Conference fee covers the registration, Proceedings, visit of exhibition ŽEL-RAIL 2011 and refreshment. The Conference fee does not cover accommodation and food.

● **10.00 - 10.20 Coffee break**

● **10.20 - 12.20 Lectures**

SETLAK Rafal, Ing., Ph.D., DYLONG Kamil, DYKTA Martyna, Silesian University of Technology, Faculty of Electrical Engineering, Gliwice, PL

Operation costs of Skoda Fabia car with electric drive

SETLAK Rafal, Ing., Ph.D., FICE Marcin, Ing., Ph.D., Silesian University of Technology, Faculty of Electrical Engineering, Gliwice, PL

Attachable hybrid drive module for vehicles

PÁCHA Matěj, Ing., Ph.D., FEE Univerzity of Žilina, SK, **ŠTĚPÁNEK Jiří, Ing.**, CZ LOKO, j.s.c., Česká Třebová, CZ

Two gen-set diesel-electric locomotive SM42 class operation

BARTÍK Ľuboš, Ing., KALINČÁK Daniel, prof., Ing., Ph.D., FME, Univerzity of Žilina, SK

Choice of parameters for hybrid drive of railway vehicles

ORAVEC Peter, Ing., ŽSR Research and Development Institute of Railways, Žilina, SK
Maintenance and operation of ŽSR steam locomotives

KALINČÁK Daniel, prof., Ing., Ph.D., FME, Univerzity of Žilina, SK

Relations among the parameters of some freight wagons

● **12.40 - 12.50 Closing Plenary Session**

● **12.50 Lunch**

The current information about the Conference PRORAIL 2011 you can find on:

<http://www.vtszu.sk>

PRELIMINARY SCHEDULE

September 20, 2011 - Tuesday

16.00 - 20.00 Registration of participants at the building of the Regional Directorate Zilina of ZSR, 1. Maja str. No 34

September 21, 2011 - Wednesday

from 7.30 Registration of participants at the block „NG“ of the University of Žilina, Veľký diel

9.30 - 10.30 Opening ceremony and opening speeches (lecture hall „NG1“)

10.50 - 12.50 Plenary session and presentation of companies (NG1)

12.50 - 14.15 Lunch (canteen of the University campus, Veľký diel)

14.15 - 18.15 Parallel Sessions (block AC at Veľký diel)

from 19.00 Social Evening at the new canteen of the University Campus, Veľký diel.

September 22, 2011 - Thursday

8.00 - 11.40 Parallel Sessions (block AC)

from ca12.50 Visit of the exhibition ŽEL-RAIL 2011 including the lunch and the transport by special train from Žilina to Vrútky and back.

September 23, 2011 - Friday

8.00 - 12.40 Parallel Sessions (block NR)

12.40 - 12.50 Closing Plenary Session (block AC)

from 12.50 Lunch

LACK Tomáš, Assoc. prof., Ing. Ph.D., GERLICI Juraj, prof., Dr.Ing., FME, Univerzity of Žilina, SK, **DOLEŽEL Petr, Ing., Ph.D.**, Minden, D

Analysis of the wheelset/rails interaction on the roller rig by means of computer simulation

● **15.55 - 16.15 Coffee break**

● **16.15 - 18.15 Lectures**

HÁBA Aleš, Ing., Ph.D., ZELENKA Jaromír, Assoc. prof., Ing., Ph.D., VÁGNER Jakub, Ing., Jan Perner Transport Faculty, University of Pardubice, CZ

Conditions of finite element method calculation of lateral stiffness of cylindrical helical spring

KMOCH Jan, Ing., JEŽDÍK Roman, Ing., MALINSKÝ Jan, Ing., HEPTNER Tomáš, Ing., VÚKV j.s.c. Praha, CZ

Calculation and design of cylindric coil springs

VÁGNER Jakub, Ing., ZELENKA Jaromír, Assoc. prof., Ing., Ph.D., CULEK Bohumil jun., Assoc. prof., Ing., Ph.D., HÁBA Aleš, Ing., Ph.D., Jan Perner Transport Faculty, University of Pardubice, CZ

Experimental research of lateral stiffness of flexi-coil springs on the Jan Perner Transport Faculty

ČAPEK Jan, Ing., JEŽDÍK Roman, Ing., PHAMOVÁ Lucie, Ing., VÚKV j.s.c., Praha, CZ

Computing simulations in the rail vehicle development

POLÁCH Oldřich, prof., Ing., Ph.D., Bombardier Transportation (Switzerland) AG, Winterthur, Switzerland

Unstable run of railway vehicles and its relationship to wheel-rail contact parameters

KOHOUT Martin, Ing., Ph.D., ZELENKA Jaromír, doc. Ing., CSc., MICHÁLEK Tomáš, Ing., Jan Perner Transport Faculty, University of Pardubice, CZ

Influence of parameter's changes of locomotive CZ LOKO series 744.0 modified for track gauge 1520 mm on dynamic behaviour

✘ Session B, September 21, 2011

● **14.15 - 15.55 Lectures**

SEGEŤA Jiří, Ing., ŠKODA VAGONKA j.s.c., Ostrava, CZ

New single-deck unit ŠKODA

ŠRÁMEK Milan, Ing., ŠKODA TRANSPORTATION j.s.c., Plzeň, CZ

Electrical equipments of ŠKODA's contemporary vehicles – Type 109 E, 109 E2, 71 Em electric locos, Class 671, 675, 7Ev EMUs and low-floor trams

BŘEČKA Radomír, Ing., KUNDRATA Miroslav, Ing., ŠKODA VAGONKA j.s.c., Ostrava, CZ

New double-deck train-sets for ZSSK

SÝKORA Radim, Ing., ŠKODA VAGONKA a.s., Ostrava, CZ

Electric unit class 675 for Ukraine

BOSÁČEK Jozef, Ing., České dráhy, j.s.c., Praha, CZ

Experiences with unveiling intooperation and operatrion of akumulator locomotive on sidings

● **15.55 - 16.15 Coffee break**

● **16.15 - 18.15 Lectures**

BRODSKÝ Jaroslav, Ing., ŠKODA Transportation j.s.c., Plzeň, CZ

The unconventional undercarriage, bogie and their new studies with the direct drive

BRODSKÝ Jaroslav, Ing., ČERVENKA Zdeněk, Ing., ŠKODA Transportation j.s.c., Plzeň, CZ

The bogies of ŠKODA 7EV for single-deck electric multiple unit

HOFMAN Jiří, Ing., ŠKODA Transportation, j.s.c., Plzeň, CZ

Differentiation of trams and its bogies according to its pivoting ability (pivoting, partially pivoting and non pivoting bogies)

DOMANICKÝ František, Ing., MORAVČÍK Marian, Ing., Ph.D., Tatravagónka j.s.c. Poprad, SK

Calculation of changes of wheel forces in three-axle bogie

KOLÁŘ Josef, doc., Ing., CSc., KRULICH Pavel, Ing., FME Czech Technical University in Prague, CZ

Possible applications of couplings between bogies for locomotives

JEZDÍK Roman, Ing., MALKOVSKÝ Zdeněk, Ing., VÚKV j.s.c., Praha, CZ

Contribution to the questions of rail vehicle passive safety

✳ **Session C, September 21, 2011**

● **14.15 - 15.55 Lectures**

FAMFULÍK Jan, Ing., Ph.D., MÍKOVÁ Jana, Ing., Ph.D., Institute of Transport, VŠB - TU Ostrava, CZ

Calculation of reserve powered vehicles number using a random vector

GALLIKOVÁ Jana, Ing., Ph.D., POPROCKÝ Roman, Ing., STUHLÝ Vladimír, Assoc. prof., Ing., Ph.D., FME, Univerzity of Žilina, SK

Utilization information system of maintenance for monitoring track vehicle parameters

GREŇČÍK Juraj, Assoc. prof., Ing., Ph.D., FME, Univerzity of Žilina, SK, **KLINKO Miloslav, Ing., Ph.D.,** GR ŽSR Bratislava, SK

Use of Balanced Score Card method for proposal of railway vehicles parameters

NOGLÝ Libor, Ing., AAE AG, Baar, Switzerland, **ZVOLENSKÝ Peter, prof., Ing., Ph.D.,** FME, Univerzity of Žilina, SK

Importance of reliability of railway freight railway wagons for private railway undertakings

JASEK Jacek, Eng., MSC., CMILT, KHAN Zahir, London Underground Ltd., UK

Operation Changes in London Underground Ltd, Stations and Trains implemented in November 2010

● **15.55 - 16.15 Coffee break**

● **16.15 - 18.15 Lectures**

GUZOWSKI Stanisław, Prof. PK, Ph.D, DSc., MICHNEJ Maciej, M.Sc. Eng., Institute of Rail Vehicles, Cracow University of Technology, PL

An analysis of fretting wear in the wheel-axle joint of an axle assembly with automatic wheel track change

PIEC Paweł, prof. dr hab. Inż., Politechnika Krakowska, PL

Investigation of brake shoe insert influence on the rail vehicles wheel sets corrugation

BABIĆ Arandjel, dr. Assoc. Prof., ILIĆ Nemanja, Ing., JAKOVLJEVIĆ Vladimir, Ing., ŽUKOVSKI Aleksandar, Ing., Faculty of Mechanical Engineering Kraljevo, Serbia
CAM modelling of joining in assembly operations of tank waggons

BAČKOVSKÝ Miroslav, Ing., TOMALA Jozef, Ing., Ph.D., TC Inter-Informatics, Ltd., Považská Bystrica, SK

Welding jigs for the construction of electricity units rough bodywork

SOUKUP Jiří, Ing., Railway Research Institute, j.s.c., Praha, CZ

Testing in sphere of rail vehicles

ŠUK Vratislav, Ing., Railway Research Institute, j.s.c., Praha, CZ

Homologation tests of the DMU 861 ŽOS Vrútky

● **10.00- 10.20 Coffee break**

● **10.20 - 12.20 Lectures**

RÜGER Bernhard, Dr., Assist. prof., Vienna University of Technology, A

Boarding assistance devices – expectations and experiences

STAMENKOVIĆ Dušan, prof., Dr.-Ing., MILOŠEVIĆ Miloš, doc., Dr.-Ing., Faculty of Mechanical Engineering, University of Niš, Serbia

Research of rubber springs for locomotive primary suspension

ŠERTLER Pavel, Ing., Siemens, Ltd. Praha, CZ

Breakage of draw bar of bogie of electrical unit of underground vehicle M1

KORECZ Kamil, Ing., SaZ Invest Ltd., Vrútky, SK, **MACOUREK Wolfgang, Ing.,** SaZ Ltd., Division Sázava, CZ

Drum-based traction of UniRoller Road-Rail vehicle

MAŠEK Jaroslav, Ing., Ph.D., BÚDA Martin, Ing., ČAMAJ Juraj, Ing., Ph.D., FOETC, Univerzity of Žilina, SK

Proposal of new concept of universal railway wagon - project VEL Wagon

GREŇČÍK Juraj, doc., Ing., Ph.D., KALINČÁK Daniel, prof. Ing., Ph.D., FME, Univerzity of Žilina, SK

New large size intermodal loading units in relation to means of transport

✳ **Session C, September 23, 2011**

● **8.00 - 10.00 Lectures**

GRAD Božena, dr., FERENSZTAJN-GALARDOS Ewa, mgr., KRAJEWSKA Renata, mgr., Technical University of Radom, Faculty of Transport and Electrical Engineering, PL

Transport cargo by railway in the European union in the time of economic crisis

BÁRTA Petr, Ing., TICHÝ Jiří, Ing., Cegelec j.s.c., Praha, CZ

Control system of the tram vehicle GT6-Berlin

NENUTIL Dobromil, Ing., UniControls j.s.c., Praha. CZ

Ethernet and IP technologies – the basis for new services in trains

PAWEŁCZYK Marek, prof., dr hab., Inż., Politechnika Ćwiętokrzyska, Kielce, PL

Hybrid drives on railways - a new trend

FICE Marcin, Ing., Ph.D., SETLAK Rafal, Ph.D., Silesian University of Technology, Faculty of Electrical Engineering, Gliwice, PL

Hybrid-electric drive for city bus

SETLAK Rafal, Ing., Ph.D., DYLONG Kamil, DYKTA Martyna, Silesian University of Technology, Faculty of Electrical Engineering, Gliwice, PL

Cost-effectiveness of electric drive in a city car on the example car Fiat Panda

PHAMOŤ Lucie, Ing., TUKAĀ Martin, Ing., VAMPOLA Tomáš, Assoc. Prof., dr. Ing., FME Czech Technical University in Prague, CZ

Influence of sound-absorbing materials to noise inside the cab - excited by acoustic sources

ZAJAC Grzegorz, Ing., Ph.D., Politechnika Krakowska, PL

Studies of vibroacoustic effects in trams

TUKAĀ Martin, Ing., PHAMOŤ Lucie, Ing., VAMPOLA Tomáš, Assoc. Prof., Dr. Ing., FME Czech Technical University in Prague, CZ

The use of Lagrange multipliers for vibro-acoustic problems

KOLÁŘ Josef, Assoc. Prof., Ing., CSc., FME Czech Technical University in Prague, CZ

Dynamics of drive wheel set with axle gearbox

VOLTR Petr, Ing., LATA Michael, Assoc. prof., Ing. Ph.D., Jan Perner Transport Faculty, University of Pardubice, CZ

Analysis of dynamical behaviour of a locomotive drive system

● **10.00 - 10.20 Coffee break**

● **10.20 - 12.40 Lectures**

KLEĀKOVÁ Jitka, Ing., PLÁNIĀKA Stanislav, Ing., VIMMR Jan, Assoc. Prof., Ing., Ph.D., FAS West Bohemian University in Pilsen, CZ

Numerical simulations of the fluid leakage through the gearbox labyrinth seal of electrical unit class 471

ZINKE Karel, Ing., FME Czech Technical University in Prague, CZ

Wheel profile operated on narrow gauge and its optimization

HEJMAN Marek, Ing., Ph.D., Výzkumný a zkušební ústav Plzeň Ltd., CZ

Railway vehicles strength assessment using the in-house and the commercial software

MIKULA Vít, Ing., Bc., FME Czech Technical University in Prague, CZ

Comparison of the dynamic effects of a railway unit to rail

SCHUSTER Milan, Dr. Ing., Výzkumný a zkušební ústav Plzeň Ltd., CZ

Simulations of external aerodynamics of moving rail vehicles

DANIŠOVIĀ Stanislav, Ing., MIKUŠÍK Juraj, Ing., Ph.D., ŽMINDÁK Milan, prof., Ing., Ph.D., FME, Univerzity of Žilina, SK

Analysis of contacts axle rolling bearings

DIŽO Ján, Ing., GERLICI Juraj, prof. Dr. Ing., LACK Tomáš, Assoc. Prof., Ing., Ph.D., FME, Univerzity of Žilina, SK

Rail vehicle mechanical system dynamic analysis via computer simulation

✘ **Session B, September 23, 2011**

● **8.00 - 10.00 Lectures**

ZELENKA Jaromír, assoc. prof., Ing., Ph.D., KOHOUT Martin, Ing., Ph.D., Jan Perner Transport Faculty, University of Pardubice, CZ

Sensitivity analysis of the yaw damper's characteristics on ride stability of the locomotive

ZELENKA Jaromír, Assoc. Prof., Ing., Ph.D., KOHOUT Martin, Ing., Ph.D., HABA Aleš, Ing., Ph.D., Jan Perner Transport Faculty, University of Pardubice, CZ

Wear of wheel profiles of goods wagons

HRIŇÁK Jozef, Ing., FME, Univerzity of Žilina, SK

The analysis of operational defects of friction pair railway wheel - brake block

ŘEZŇÍĀEK Rudolf, Ing., Ph.D., FME, Univerzity of Žilina, SK, **NOVOSAD Miroslav, Ing., CSc., ŘEHA Bohuslav, Ing.,** BONATRANS GROUP, j.s.c., Bohumín, CZ

Verification of railway wheels thermomechanical properties

KUŘE Gottfried, Ing., SKF Austria AG, Steyer, A, **BABKA Jan, Ing., SOUKUP Milan, Ing.,** SKF Ložiska, j.s.c., Praha CZ, **HORNÁĀEK Ľubomír, Ing.,** SKF Slovensko, Ltd., Bratislava, SK

The genesis, application and future of wheelset bearings and mechatronics

SLIVA František, Ing., KINEX BEARINGS, j.s.c., BytĀa, SK

Application of development results of wagon's bearings 2001-2011

19.00 Evening reception

September 22, 2011 - Thursday

✘ **Session A, September 22, 2011**

● **8.00 - 9.40 Lectures**

BRUNA František, Ing., SLOBODA Juraj, Ing., BALÁŽI Filip, Ing., VÚ,D j.s.c., Žilina, SK

Fatigue tests and uncertainty of measurement parameters

FUSATÝ Marek, Ing., HARUŠINEC Jozef, Ing., Ph.D., GERLICI Juraj, prof. Dr. Ing., LACK Tomáš, Assoc. prof., Ing., Ph.D., FME, Univerzity of Žilina, SK

RAILBCOT test stand design chosen aspects

GERLICI Juraj, prof. Dr. Ing., LACK Tomáš, Assoc. prof., Ing., Ph.D., HARUŠINEC Jozef, Ing., Ph.D., FME, Univerzity of Žilina, SK, **DOLEŽEL Petr, Ing., Ph.D.,** Minden, D, **MÜLLER Ronald, Dipl. Ing. ETH,** Gleislauftechnik Müller, Belp, Switzerland

RAILBCOT rail vehicles brake components test stand

PALUCH Ján, Ing., LACK Tomáš, Assoc. prof., Ing. Ph.D., GERLICI Juraj, prof., Dr. Ing., S FME, Univerzity of Žilina, SK

Basic conception for measuring system of RAILBCOT test stand used for testing brake components of railway vehicles

KALIVODA Jan, Ing., Ph.D., BAUER Petr, Ing., FME Czech Technical University in Prague, CZ

Curve Simulation on a Roller Rig

● **9.40 - 10.00 Coffee break**

● **10.00 - 11.40 Lectures**

KOSTIC Dragutin, prof., Ph.D., BOJOVIC, Nebojsa, prof., Ph.D., MARKOVIC, Petar, dipl. ing., University of Belgrade, Faculty of Transport and Traffic Eng., RS

An indirect method of measuring angular velocity and acceleration of a traction wheel on a traction vehicle

MYAMLIN Sergey, Prof., Ph.D., KRAVETS Vladimir, doc., Ph.D., V. Lazaryan National University of Railway Transport, Dnepropetrovsk, UA

The use of inertial measuring system to estimation of dynamic loading of high speed vehicle and track

KHARCHENKO Aleksandr, KRAVETS Tamila, Dnipropetrovsk National University of Railway Transport named after acad. V. Lazaryan, UA

Usage of quaternionic matrices to define inertia moments of wheelset taking into account manufacturing and assembly errors

HOFMANN František, Ing., MALINSKÝ Jiří, Ing., MALKOVSKÝ Zdeněk, Ing., VÚKV j.s.c., Praha, CZ

Vehicle running strength tests and result evaluation

ČAPEK Jan, Ing., MALINSKÝ Jiří, Ing., MOUREČEK Zdeněk, Ing., VÚKV j.s.c., Praha, CULEK Bohumil, prof., Ing., CSc., Jan Perner Transport Faculty, University of Pardubice, CZ

Measuring wheelset system VÚKV 3 and its using possibilities

✖ Session B, September 22, 2011

● 8.00 - 9.40 Lectures

BAŠTEK Marian, doc., Ing. CSc., CESNEK Dušan, Ing., KRŠKO Ján, Ing., ŽOS Vrútky, j.s.c., SK

Technical particularities of motor unit series 861 for ZSSK (Railway Company Slovakia)

DRÁBEK Jiří, Assoc. prof., Ing., Ph.D., FEE, University of Žilina, SK

Production of the modern electric rolling stock for the urban mass transportation in ČR

POHL Jiří, Ing., VURM Jan, Ing., Siemens Ltd. (CZ) Praha, CZ

Second generation of interoperable locomotives

ŠTĚPÁNEK Jiří, Ing., CZ LOKO, j.s.c., Česká Třebová, CZ

CZ LOKO modular set for broad gauge locomotives

ZELINGR Miloš, Ing., MALINSKÝ Jan, Ing., MAŠEK Jan, Ing., VÚKV j.s.c., Praha, CZ
15T type tramcar

● 9.40 - 10.00 Coffee break

● 10.00 - 11.40 Lectures

HELLER Petr, Assoc. prof., Ing., CSc., FME West Bohemian University in Pilsen, CZ, CHVOJAN Jan, Ing., Výzkumný a zkušební ústav Plzeň Ltd., CZ

Hybrid car body of the rolling stock, dynamic tests of the functional sample

SLÁVIK Miloš, Ing., Railway Company Slovensko, j.s.c., Bratislava, SK

New Construction Elements for Driving Vehicles of ZSSK

KUCHTA Jozef, Assoc. Prof., Ing., Ph.D., KUČERA Roman, Ing., FRANKO Marek, Ing., Ph.D., FULIER Miroslav, Ing., EVPÚ j.s.c., Nová Dubnica, SK

Modernization of locomotive s. 361 from the development of new components of traction equipment

KUCHTA Jozef, Assoc. Prof., Ing., Ph.D., FRANKO Marek, Ing., Ph.D., EVPÚ j.s.c., Nová Dubnica, SK

Advantages and constraints of using a permanent magnet synchronous motor in traction drives

CHLUM Petr, Ing., Railway Research Institute, j.s.c., Praha, CZ

Variants of modernization of diesel locomotives 750 to 757

✖ Session C, September 22, 2011

● 8.00 - 9.40 Lectures

TYLKA Marek, Ing., ŽOS Trnava, j.s.c., ZVOLENSKÝ Peter, prof., Ing., Ph.D., FME, University of Žilina, SK

Modernization of rolling stock ZSSK Slovakia in terms of ZOS Trnava, j.s.c.

TOMA Rudolf, Ing., Railway Company Slovensko, j.s.c., Bratislava, ZVOLENSKÝ Peter, prof., Ing., CSc., FME, University of Žilina, SK

Structure and current status of railway vehicle park of Železničnej spoločnosti Slovensko, a.s. TSI with the application in improving operational properties

LUŽÁK Miloslav, Ing., ZSSK Cargo Slovakia, j.s.c., Bratislava, SK

Development of freight rolling stock of ZSSK CARGO

VEREŠ Michal, Ing., Railway Company Slovensko, j.s.c., Bratislava, SK

Maintenance of ZSSK rolling stock in the context of new and modernized rolling stock

HAVLÍČEK Petr, Ing., HAMPACHER Lukáš, Dis., The Prague Public Transport Co. Inc., CZ

Prague metro rolling stock renewal and maintenance problems

● 9.40 - 10.00 Coffee break

● 10.00 - 11.40 Lectures

ČERVENKA Peter, Ing., Reming Consult, j.s.c., Bratislava, FRIEDRICH Zdeněk, Ing., ZSSK Cargo Slovakia, j.s.c., Bratislava, SK

Technical specifications of interoperability in relation to railway rolling stock

SORGER Peter, Eng., OTIF, Berne, Switzerland

OTIF Technical legislation and standards

KOTRBA Alois, Ing., Ph.D., ČD, a.s., DKV Brno, CZ

Current Operation of the Locomotive Sandblaster KOVA-03D

ORT-KRAJČÍR Milan, Ing., ŠPILÁK Jaroslav, Railway Company Slovensko, j.s.c., Bratislava, ORT KRAJČÍR Michal, Ing., ŽSR Bratislava, SK

Failures diagnostic and tractive invertors operation of the electric double-deck unit

POHL Jiří, Ing., Siemens, Ltd.(CZ) Praha, CZ, KUŠPÁL Rastislav, Ing., Siemens SK, Žilina, SK

Application of the system ETCS

◆ 12.50 Departure of the special train from Žilina to Vrútky

◆ 13.20 Lunch and visit of exhibition ŽEL-RAIL 2011 at Vrútky

◆ 17.30 Departure of the special train from Vrútky to Žilina

September 23, 2011 - Friday

✖ Session A, September 23, 2011

● 8.00 - 10.00 Lectures

Hlaváček Jan, Ing., HEJZLAR Lukáš, Ing., Railway Research Institute, j.s.c., Praha, PHAMOŤÁ Lucie, Ing., VÚKV a.s., Praha, MUSIL Michal, Ing., Ph.D., Jan Perner Transport Faculty, University of Pardubice, CZ

Noise emission and vibration in railway system – NOVIBRAIL project