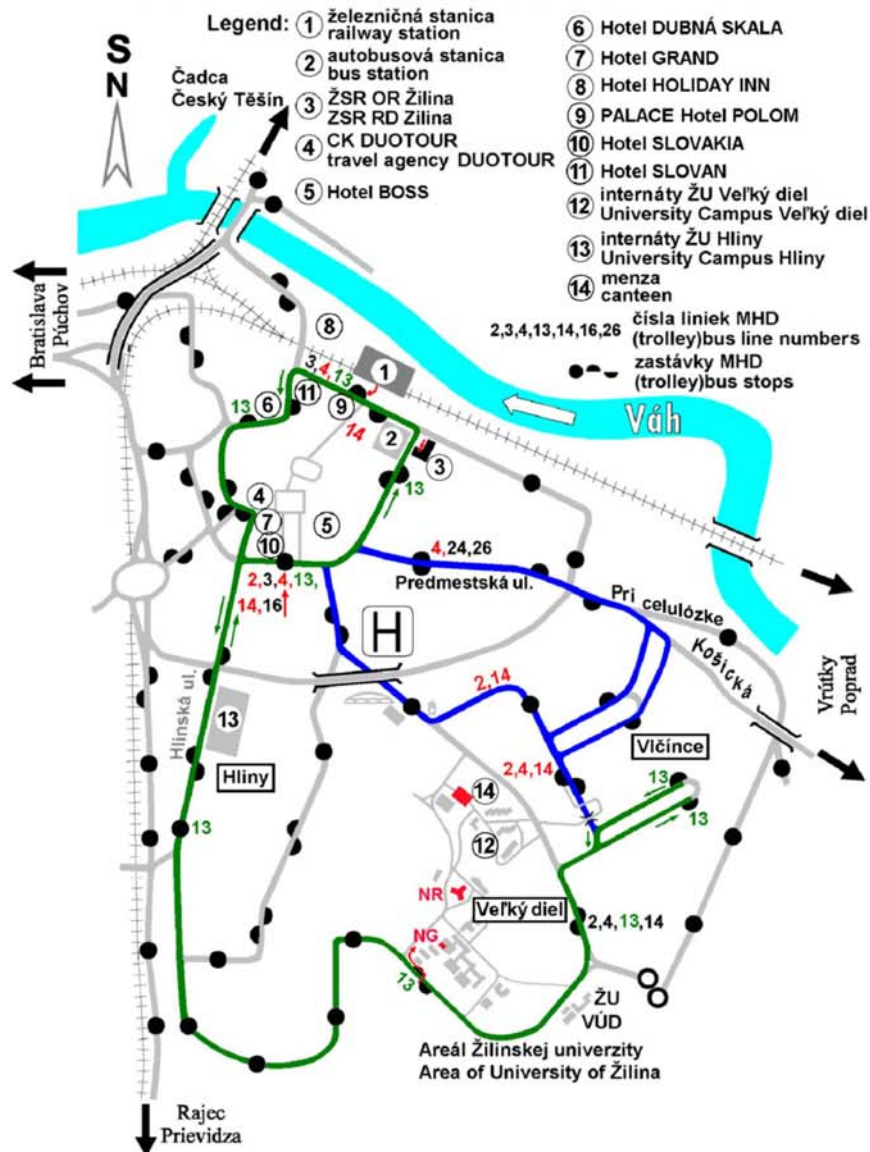


**ORIENTAČNÁ MAPA MHD ŽILINY**  
**INFORMATION URBAN TRANSPORT MAP OF ŽILINA**



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



**XVIII. MEDZINÁRODNÁ KONFERENCIA  
 SÚČASNÉ PROBLÉMY V  
 KOĽAJOVÝCH VOZIDLÁCH**

**18th INTERNATIONAL CONFERENCE  
 CURRENT PROBLEMS  
 IN RAIL VEHICLES**



**POZVÁNKA**

**INVITATION**

**ŽILINA 19. - 21. 9. 2007, SLOVENSKO  
 ŽILINA SEPTEMBER 19 - 21, 2007, SLOVAKIA**

## SPONSORS OF THE CONFERENCE PRORAIL 2007



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142 01 PRAGUE 4, CZ



**ŽOS Trnava, j.s.c.**  
Koniarekova 19  
917 21 TRNAVA, SK



XVIII. medzinárodná konferencia "Súčasný problémy v koľajových vozidlách - PRORAIL 2007" sa koná v rámci medzinárodného týždňa aktivít v odbore železničnej techniky **RAILINFORM 2007**. Okrem tejto konferencie sa budú v rámci RAILINFORM 2007 konať aj tieto akcie:

**ŽEL-RAIL 2007**, IX. medzinárodná výstava výrobkov a služieb pre potreby železníc a koľajovej dopravy, Vrútky 18. - 21. 9. 2007,

**XV. medzinárodná konferencia "VRT" - Modernizácia železničných tratí**, GAMA Klub Žilina 18. - 19. 9. 2007.

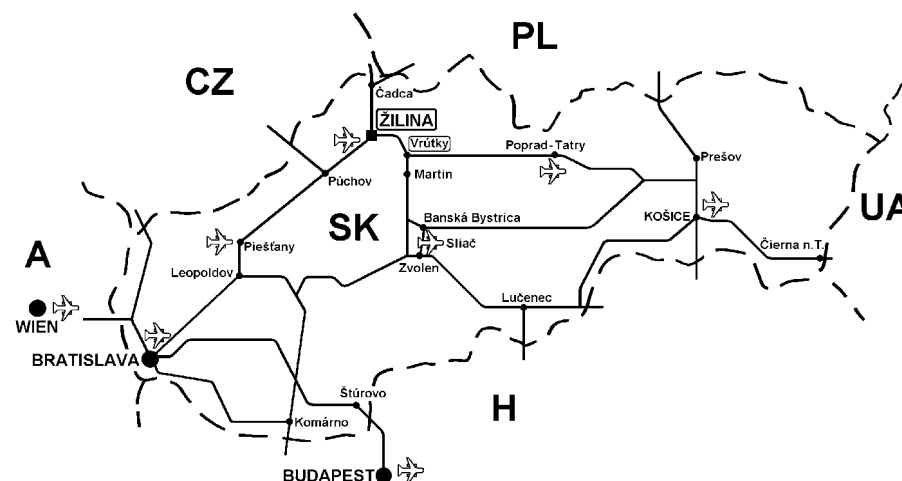
*The 18<sup>th</sup> International Conference "Current problems in rail vehicles - PRORAIL 2007" is an integral part of the international week of activities in the area of rail industry and railway technology RAILINFORM 2007. The following events will take place in the frame of the RAILINFORM 2007 besides this Conference:*

**ŽEL-RAIL 2007**, 9<sup>th</sup> International exhibition of products and services for the railways and rail transport, Vrútky, September 19 - 21, 2007,

**The 15<sup>th</sup> International Conference "VRT" - Modernization of railway tracks**, GAMA Club Žilina, September 18 - 19, 2007.

Ďalšie informácie further Information

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



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	60 EUR,
Exhibition of your own panel	30 EUR,
Free exhibition area	30 EUR/1 m <sup>2</sup> .

If you are interested in advertising of your company in the Conference PRORAIL 2007, please fill in enclosed order and send it (including text and pictures of advertisement) **no later than on August 20, 2007** to address:

Prof. Ing. Daniel KALINČÁK, PhD.

VTS pri Žilinskej univerzite

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010 26 ŽILINA

SLOVAKIA

Phone: +421 (0)41 513 2650, Fax: +421 (0)41 5254 440, 5253 016, mobil: +421 (0)907 586 005, e-mail: [daniel.kalincak@fstroj.uniza.sk](mailto:daniel.kalincak@fstroj.uniza.sk).

If you will order advertisement, we will send to you one free copy of Proceedings of the Conference PRORAIL 2007 till the end of October 2007.

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

# INVITATION

for 18<sup>th</sup> International Conference

## CURRENT PROBLEMS IN RAIL VEHICLES PRORAIL 2007



under the auspices of

Minister of Transport, Posts and Telecommunications of the Slovak  
Republic

**Ing. Ľubomír VÁŽNY,**

Rector of the University of Žilina

**Prof. Ing. Ján BUJŇÁK, Ph.D.,**

Director General of Railway Company Slovensko, j.s.c.

**Ing. Milan CHÚPEK, Ph.D.,**

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**Mgr. Matej AUGUSTÍN,**

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**Prof. Ing. Peter ZVOLENSKÝ, Ph.D.**, Faculty of Mechanical Engineering, University of Žilina, SK

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**Ing. Dalibor BARTA, Ph.D.**, Faculty of Mechanical Engineering, University of Žilina, Univerzitná 1, 010 26 ŽILINA, Phone.: +421 41 513-2668, Fax: +421 41 5253 016, M.: +421 904 388 351, e-mail: [dalibor.barta@fstroj.uniza.sk](mailto:dalibor.barta@fstroj.uniza.sk).

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**Ing. Zuzana ONDROVÁ**, Faculty of Mechanical Engineering, University of Žilina, SK

**Ing. Peter PALKO**, Faculty of Mechanical Engineering, University of Žilina, SK

## Conference languages:

Slovak, Czech, English.

## Hotel GRAND\*\*\*\* Žilina

- is situated in the historical town centre.

### Price (accommodation including breakfast)

single room LUX 80 EURO

double room LUX 115 EURO

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The newest hotel is situated in the historical city centre near hotel SLOVAKIA.

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### Price (accommodation including breakfast)

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Hotel is situated in the town centre near the TESCO supermarket.

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less than 3 days and no abolished orders -	100% of calculated price.

## ADVERTISING

We are preparing the 18<sup>th</sup> International Conference „Current Problems in Rail Vehicles - PRORAIL 2007", which will take place in the University of Žilina in September 19 - 21, 2007. Usually about 250 specialists from Slovak Republic, 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 on format B5 (176 x 250 mm). Fees for one page advertisement in the Proceedings are:

black&white page . . . . . 60 EURO

two color page . . . . . 95 EURO

full color page . . . . . 170 EURO.

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.

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18<sup>th</sup> INTERNATIONAL CONFERENCE

**CURRENT PROBLEMS IN RAIL**

**VEHICLES - PRORAIL 2007**

September 19 - 21, 2007, Žilina. Slovakia

## ENCLOSURES



**DUOTOUR**

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E-mail : duotour@nextra.sk

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

### **Hotel HOLIDAY INN\*\*\*\* Žilina**

New modern four-star hotel, located nearby the historical city centre

**Price (accommodation including breakfast)**

single room 155 EURO

double room 185 EURO

### **Hotel DUBNÁ SKALA\*\*\*\* Žilina**

New hotel in the city centre above hypermarket TESCO

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

single room 125 EURO

double room 160 EURO

### **PALACE hotel POLOM\*\*\*\*+ Žilina**

Known as hotel POLOM was reopened in March 2007 (fully refurbished). Hotel is situated in the town city centre.

**Price (accommodation including breakfast)**

single room 115 EURO

double room 145 EURO

### 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 NR 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, air-conditioning, technology and materials.

### Organizers are pleased to thank the sponsors of the Conference:

**TATRAVAGÓNKA a.s.**, Štefánikova 887/53, 058 01 Poprad, SK,

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**ŽOS Trnava, j.s.c.**, Koniarekova 19, 917 21 Trnava, SK,

and others companies which supported the Conference by different way.

## PROGRAMME

### September 18, 2007 - Tuesday

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

## September 19, 2007 - Wednesday

**from 7.30 Registration of participants** at block NG, University Campus - Veľký diel

**9.30 - 10.15 Opening ceremony (lecture hall NG 1)**

### Opening Speeches

Rector of University of Žilina, Prof. Ing. Ján BUJŇÁK, Ph.D.,  
general director of the section of the railway transport and lines of the Ministry of the Transport, Posts and Communications of the Slovak Republic, Ing. Ján HALAJ,  
chairman of the commission for infrastructure and rolling stock of OSJD, assoc. prof. Milan HŘEBAČKA, Ph.D.,  
general director of the Railway company Slovensko, j.s.c., Ing. Milan CHÚPEK, Ph.D.,  
general director of the Railway company Cargo Slovakia, j.s.c., Mgr. Matej AUGUSTÍN,  
general director of ŽSR, Ing. Dalibor ZELENÝ,  
dean of the Faculty of mechanical engineering of the University of Žilina, Prof. Ing. Štefan MEDVECKÝ, Ph.D.,  
dean of the Jan Perner Transport Faculty, University of Pardubice, Prof. Ing. Bohumil CULEK, Ph.D.

**10.15 - 10.30 Break**

**10.30 - 11.40 Plenary session**

**Ing. Antonín BLAŽEK**, VUZ j.s.c., Prague, CZ

Experience Notify Body VUZ, a.s. in railway vehicle conformity assessment

**Ing. Zdeněk NOVOTNÝ**, ČD j.s.c., Prague, CZ

Implementation of "Directive 2004/49/EC of the European Parliament and the Council on safety on the Community's railways"

**Ing. Jiří HOFMAN**, SKODA TRANSPORTATION, Ltd., Pilsen, **assoc. prof. Ing. Petr HELLER**, Ph.D., West Bohemian University in Pilsen, CZ

ComplexTrans - combined transportation system for individual and mass transport of persons and goods in city and intercity traffic

**11.40 - 12.30 Presentation of companies**

ČKD VAGONKA, j.s.c., Ostrava, CZ

ŠKODA TRANSPORTATION, Ltd., Pilsen, CZ

INER-INFORMATICS, Ltd., Prague, CZ

Schenck Process Slovakia, Ltd., Bratislava, SK

VUZ, j.s.c., Prague, CZ

**12.30 - 14.00 Lunch**

### Afternoon work in sessions (Block NR)

#### Session A, September 19, 2007

**14.00 - 15.40 Lectures**

**Ing. Roman JEŽDÍK**, **Ing. Zdeněk MALKOVSKÝ**, **Ing. Jan KMOCH**, VÚKV j.s.c., Prague, CZ

Application of the European standard prEN 15227:2007 "Crashworthiness requirements for railway body" in a tram design

## ORGANIZATIONAL INSTRUCTIONS

**Conference venue:** The Conference will be held at the auditoria **NG** and **NR** of the University of Žilina, Veľký diel from September 19 to September 21, 2007.

**Registration of participants:** September 18, 2007 16.00 - 20.00 at the building of the Regional directorate Žilina of ŽSR, 1. Maja str., No 34.  
September 19, 2007 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 NR** you can take trolleybus No 13, stop at the railway station - direction to the housing estate „Vlčince“, and get off at bus stop „Žilinská univerzita“, or if you can go from the bus stop „Štúrovo námestie“ - near the Hotel Slovakia take trolleybus No 13 and again get off at 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 27, 2007** 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 5253 016, +421 41 5254 440, mobile: +421 907 586 005,

e-mail: [daniel.kalincak@fstroj.uniza.sk](mailto:daniel.kalincak@fstroj.uniza.sk).

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

**Accommodation:**

**Food:**

Lunches on September 19 and 21 are in the canteen of the University Campus, lunch on September 20 is in Vrútky.

**Social evening:**

Evening reception will be on September 19, 2007 at 19.00 in the canteen of the University Campus.

**Conference fee:**

Conference fee is **90 EUR** (if payment is made by bank transfer) or **3 200,- Sk (100 EUR)** if conference fee is paid in cash at registration. **One from authors of each paper pay reduced conference fee 75 EUR** (payment by bank transfer) **or 2 700,- SK (85 EUR)** if it is paid in cash. Conference fee covers the registration, Proceedings, visit of exhibition ŽEL-RAIL 2007, three lunches, evening reception and refreshment.

**Ing. Branislav KRIGOVSKÝ, Ing. Peter ČERVENKA**, Railway Company Cargo Slovakia, j.s.c., Bratislava, SK  
 Measurement of power consumption on the locomotives of ZSSK Cargo Slovakia, a.s.  
**Bohuslav ŠINDLER**, Railway Company Cargo Slovakia, j.s.c., Bratislava, SK  
 Application of measurement system of operating parameters on locomotive Class 742  
**Prof. Ing. Daniel KALINČÁK, Ph.D., Ing. Peter PALKO**, FME, University of Žilina, SK  
 Operational conditions of diesel motive power units and hybrid drive  
**Ing. Peter PALKO, Prof. Ing. Daniel KALINČÁK, Ph.D.**, FME, University of Žilina, SK  
 Unconventional traction drives of rail vehicles and alternative fuels

**12.10 - 12.30 Closing Plenary Session**

**12.30 Lunch**

The current information about the Conference PRORAIL 2007 you can find on:

<http://www.vtszu.sk>

## PRELIMINARY SCHEDULE

### September 18, 2007 - Tuesday

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

### September 19, 2007 - Wednesday

from 7.30 Registration of participants at the block „NG“ of the University of Žilina, Veľký diel  
 9.30 - 10.15 Opening ceremony and opening speeches (lecture hall „NG1“)  
 10.15 - 10.30 Break  
 10.30 - 11.50 Plenary session (NG1)  
 11.50 - 12.30 Presentation of companies  
 12.30 - 14.00 Lunch (new canteen of the University campus, Veľký diel)  
 14.00 - 18.00 Parallel Sessions (block NR at Veľký diel)  
 from 19.00 Social Evening at the new canteen of the University Campus, Veľký diel.

### September 20, 2007 - Thursday

8.00 - 11.20 Parallel Sessions (block NR)  
 12.30 Departure of the special train from Žilina to Vrútky  
 from 13.00 Lunch and visit of the exhibition ŽEL-RAIL 2007 in Vrútky  
 17.30 Departure of the special train from Vrútky to Žilina

### September 21, 2007 - Friday

8.00 - 12.00 Parallel Sessions (block NR)  
 12.10 - 12.30 Closing Plenary Session (block NR)  
 from 12.30 Lunch

**Assoc. prof. Andrzej KOBIELSKI, Ph.D., dr. inż. Piotr KISIELEWSKI**, Cracow University of Technology, PL

Investigations of the railway accidents with a computer simulation method

**Ing. Vladimír KOBISHANOV, Dr.Sc., Ing. Andrey AZARCHENKOV, Ph.D.**, Bryansk State Technical University, RU

Modelling of emergency impact of a passenger train with an obstacle in a railway

**Assoc. prof. Ing. Jaromír ŠVÍGLER, Ph.D., Ing. Vladimír MACHULDA**, West Bohemian University in Pilsen, CZ

Contribution to modelling of contact between wheel set and railway

**Ing. Jozef HARUŠINEC, assoc. prof. Dr. Ing. Juraj GERLICI, assoc. prof. Ing. Tomáš LACK, Ph.D.**, FME, University of Žilina, SK

A rail/wheel contact analysis with the help of the Finite element method

**15.40 - 16.00 Coffee break**

**16.00 - 18.00 Lectures**

**Prof. Ing. Marek PAWEŁCZYK, Dr.Sc.**, Radom Technical University, PL

Investigation of the wheel flat dynamics

**Ing. Salem A. ABEIDI, Ing. Nicola BOSSO, Ph.D.**, Politecnico di Torino, I

Effect of vehicle dynamics on wear simulation of railway wheel profiles

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

Computational simulation of running behaviour of locomotive series 380

**Ing. Aleš HÁBA, assoc. prof. Ing. Jaromír ZELENKA, Ph.D.**, Jan Perner Transport Faculty, University of Pardubice, CZ

Method of a railway vehicle dynamic effects in the course of passing over a turnout

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

Dynamic effects of unit class 380 in the course of passing over turnouts of corridor tracks

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

Verification of MPV22 vehicle instable running behaviour by the way of simulation calculation

## WSession B, September 19, 2007

**14.00 - 15.40 Lectures**

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

Production of traction rail vehicles in ČR and SR

**Ing. Oto HREBIK, Ing. Jozef RÁKOČI, Ing. Andrej LANG**, Rail Project, Ltd., Poprad, SK

Hopper wagons for British market

**John SKILLER**, SKF Railway Business Unit; Nieuwegein, NL, **Ing. Volker GEDENK**, Contitech Air Spring Systems GmbH; Hannover, D, **Ing. Jozef KUBIČKO**, Tatravagónka a.s., Poprad, SK

GIGABOX: axlebox system combining compact bearing unit and rubber suspension

**Ing. Štefan KURUC, Ing. Anna NEŠTIAKOVÁ**, Railway company Slovensko, j.s.c., Bratislava, SK

New construction units in passenger cars ZSSK

**Ing. Ján KRŠKO, Ing. Dušan CESNEK**, ŽOS Vrútky, j.s.c., SK

Passenger coach of type Bmpeer - technical description and its manufacture in ZOS Vrútky

**15.40 - 16.00 Coffee break**

**16.00 - 18.00 Lectures**

**Ing. Ján KRŠKO, Ing. Marian GRIGA**, ŽOS Vrútky, j.s.c., SK

Steering and intermediate carriage ZVB, ÖBB intended for service on the narrow gauge - technical description and its manufacture in ZOS Vrútky

**Ing. Jiří SEGEŤA**, ČKD VAGONKA, j.s.c., Ostrava, CZ

Double-deck trainsets from ČKD VAGONKA, .a.s. for suburban and regional traffic

**Ing. Vratislav ŠUK**, VUZ j.s.c., Prague, CZ

The reconstruction of the class 810 motor rail cars at the operators ČD, a.s., ZSSK, a.s. and MÁV

**Ing. Jiří POHL**, Siemens Kolejová vozidla, Ltd., Prague, CZ

Electric train units for high-speed transport

**Ing. Pavel ŠERTLER**, Siemens Kolejová vozidla, j.s.c., Prague, CZ

Electric rail vehicles for city and suburban transport

**Ing. Jitka HAMPLOVÁ**, Pars nova, j.s.c., Šumperk, CZ

Modernization of regional railway vehicles in Czech Republic

## WSession C, September 19, 2007

**14.00 - 15.40 Lectures**

**Ing. Bożena GRAD, Ph.D.**, Radom Technical University, PL

Regionalization of rail transport as a form of market adaptation of rail in Poland. Empirical experiences of the Mazowieckie province

**Ing. Michal VEREŠ, Ing. Július SLÍŽ**, Railway company Slovensko, j.s.c., Bratislava, SK

Regionalization of railway transport, and the rolling stock that meets the criteria of effective regional transport

**Ing. Józef STOKŁOSA, Ph.D.**, Radom Technical University, PL

Combined transport in Poland - problems and opportunities

**Ing. Jozef BOSÁČEK**, Prague, CZ

Legislative differences between road and railway transport

**Ing. Alexandr LIBERTÍN**, GR ČD j.s.c., Prague, CZ

Deliberation about present state of european standards for approval and operation of special vehicles

**15.40 - 16.00 Coffee break**

**Assist. prof. Miloš MILOŠEVIĆ, Ph.D., Dušan STAMENKOVIĆ, Ph.D.**, University of Niš, **Anica MILOŠEVIĆ, M.Sc.**, High Technical School, Niš, Serbia

Research of absorbed energy of rail vehicle buffers filled with rubber-metal springs

**9.40 - 10.00 Coffee break**

**10.00 - 12.00 Lectures**

**Ing. Rafal PODSIADLO, Ph.D.**, Radom University of Technology, PL

Automated stability control of a multilevel car within a curve

**dr inż. Stanisław Janusz CIEŚLAKOWSKI**, Radom Technical University, PL

Impact of carriage resistance on the shape of marshaling system track arrangements

**Ing. Miroslav SOUČEK, assoc. Prof. Ing. Petr HELLER, Ph.D.**, West Bohemian University in Pilsen, CZ

Research into new principles of light construction of rail vehicles

**Ing. Stanislav ŠVĚD, Ing. Zdeněk MALKOVSKÝ**, VÚKV, j.s.c., Prague, CZ

Vehicle strength - kinds of vehicle strength, requirements, evaluation-and evolution of pertinent regulations

**Ing. Jiří NAVRÁTIL, Ing. Zdeněk MALKOVSKÝ**, VÚKV, j.s.c., Prague, CZ

Static strength tests on car bodies - an important step in verifying new vehicle

**Ing. Peter ČERVENKA**, Railway Company Cargo Slovakia, j.s.c., Bratislava, SK

Current development of Technical Specifications of Interoperability of a Conventional railway system

## WSession C, September 21, 2007

**8.00 - 9.40 Lectures**

**Ing. Miroslav BAČKOVSKÝ**, Inter-Informatics, Ltd., Prague, CZ

Use of modern design methods

**Ing. Ferdinand JANÍČEK**, Tatrabagónka, j.s.c. Poprad, SK

CAX systems knowledgeware tools at rail vehicles design

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

AWARE - the 6-th Frame Programme of European Union project

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

Design of damage quantification methodics at rail vehicle disservice

**Assoc. prof. Juraj GREŇČÍK, Ph.D.**, FME, University of Žilina, SK

European Standards for maintenance

**9.40 - 10.00 Coffee break**

**10.00 - 12.00 Lectures**

**Prof. Ing. Valentin MOGILA, Ph.D., Ing. Helen NOZHENKO**, East Ukrainian National University after name V. Dalia, Lugansk, RU

Energy electrodynamic braking for increase of efficiency of diesel locomotive engines

**Eng. Rafal SETLAK, Ph.D., Eng. Marcin FICE, M.Sc.**, Silesian University of Technology, Gliwice, PL

Rechargeable batteries and supercapacitors as an energy storage in hybrid electric drive for a city vehicle

**Ing. Bohuslav ŘEHA, Ing. Petr MATUŠEK, Ph.D.,** BONATRANS GROUP, j.s.,c. Bohumín, CZ

Residual stress measurement methods according to EN standards and their applications at the optimization of railway wheelset production

**Ing. Petr BAUER, Ing. Jan KALIVODA, Ph.D.,** FME ČVUT in Prague, CZ

Experimental research on wheelsets with independently rotating wheels

**Assoc. prof. Dr. Dušan STAMENKOVIĆ, Ph.D.,** Faculty of Mechanical Engineering, University of Niš, Serbia

Investigation of the press fit joints strength

**9.40 - 10.00 Coffee break**

**10.00 - 12.00 Lectures**

**Ing. Dmitrij SOMOV, M.Sc., prof. Ing. Zilvinas BAZARAS, Dr.Sc.,** Kaunas University of Technology, **assoc. prof. Ing. Vytautas VASAUSKAS, Dr.Sc.,** Lithuanian University of Agriculture, Kaunas, Lithuania

Locomotive axle rim durability amplification

**Ing. Lukáš HEJZLAR, VUZ j.s.c.,** Prague, CZ

EMU CDT 380 - Pendolino: wheel forces measurement methods comparison in the frame of Czech main lines verification

**Dr. Janusz MADEJSKI, GRAW, Gliwice, PL**

Stationary wheel profile and diameter measurement system for InterCity

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

An analysis of springs and bumpers parameters influence on the ride comfort

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

The programme system DELTA exploitation for numerical analysis performance

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

An exact rail/wheel contact stress evaluation

## **WSession B, September 21, 2007**

**8.00 - 9.40 Lectures**

**academician prof. Ing. Kirill VOYNOV, Ing. Helen SAMOYLOVA, Ing. Yuri BALESNYI, Ing. Helen CHERTOK, Ing. Altyn ESBULATOVA, assist. prof. Zoya DOKUCHAEVA,** Petersburg State University of Railways Communication, RU

New designs of the rail vehicles systems

**Ing. Radomír BŘEČKA, ČKD VAGONKA, j.s.c.,** Ostrava, CZ

Experiences from operation of railcars Dm12 in Finland

**Ing. Jiří KONEČNÝ, ČD j.s.c.,** Prague, CZ

Experiences from service of tilting EMU Class 680 of Czech railways

**Ing. Branislav MINTÁL, Railway Company Cargo Slovakia, j.s.c.,** Bratislava, SK

General efficiency enhancement of thermal and technological regime of the K6S230DR diesel engine performance of locomotive class 742

**16.00 - 18.00 Lectures**

**Ing. Jaroslav PINDOR, Ph.D., Ing. Jiří CUPEK, Ing. Ladislav ŠOLTÉS,** Třinecké železářny, j.s.c., Třinec, CZ

Development trends in production of semi-manufactured products for wheel sets

**Prof. Ing. Peter PALČEK, Ph.D.,** FME, University of Žilina, SK

The properties of light metals alloys used in construction of railway vehicles

**Ing. Václav LINHART, Ph.D., Ing. Jana SIGMUNDOVÁ, SVÚM j.s.c.** Prague, **Ing. Václav HAMPL, ŠKODA TRANSPORTATION, Ltd.,** Pilsen, **Ing. Jan CHVOJAN, Ph.D., ŠKODA VÝZKUM, Ltd.,** Pilsen, CZ

Increase of axle fatigue resistance in pressed on place by surface hardening

**Krzysztof BIZOŃ, Ph.D., prof. Zbigniew ŻUREK, Ph.D., DSc.,** Silesian University of Technology, Katowice, PL

Simulation assessment of fatigue load areas of EU07 locomotive wheel

**Prof. Relja JOVANOVIĆ, Ph.D., Aleksandar RADOSAVLJEVIĆ, Ph.D., Simo MIRKOVIĆ, B.Sc.,** Institute of Transportation CIP, Belgrade, Serbia, **Milan MILOTIĆ, M.Sc.,** Faculty of Technical and Transportation Dobo, Bosnia and Herzegovina

Possible prevention of torsional cracks of electric locomotives axles

**Dipl. Ing. ETH Petr MARTNU, ALCAN Composite Structures, Altenrhein, CH**

Application of composite materials for design of front modules of rail vehicles

**19.00 Evening reception**

## **September 20, 2007 - Thursday**

### **WSession A, September 20, 2007**

**8.00 - 9.40 Lectures**

**Ing. Jan ČAPEK, VÚKV j.s.c.,** Prague, CZ

Multibody simulations of trams running behaviour

**Ing. Tomáš HEPTNER, Ing. Zdeněk MOUREČEK, VÚKV j.s.c.,** Prague, CZ

Testing of rail vehicles running behaviour

**Ing. Zuzana ONDROVÁ, doc. Dr. Ing. Juraj GERLICI, doc. Ing. Tomáš LACK, Ph.D.,** FME, University of Žilina, SK

The ride comfort for passengers of rail vehicles

**Assoc. prof. Ing. Josef SOUKUP, Ph.D., PhD. Ing. Jan VOLEK,** University of J. E. Purkyně in Ústí n. Labem, CZ

Investigation of vehicle vertical vibration

**Ing. Marián MORAVČÍK, Tatrávagónka, j.s.c.,** Poprad, SK, **assoc. prof. Ing. Jaromír ZELENKA, Ph.D.,** Jan Perner Transport Faculty, University of Pardubice, CZ

Dynamic response of the vehicle running in the rail

**9.40 - 10.00 Coffee break**

## 10.00 - 11.20 Lectures

**Ing. Kamil KORECZ**, SaZ Invest Ltd. Skalica, workplace Vrútky, SK

Dynamical response of two-wheelset vehicle based on the variable railway track characteristics

**Prof. Jerzy PIOTROWSKI, Ph.D., D.Sc., assoc. prof. Jan MATEJ, Ph.D.**, Warsaw University of Technology, PL

Influence of medium-frequency dither on ride dynamics of rail vehicle with dry friction damping

**Prof. Dr.-Ing. Markus HECHT, Dipl.-Ing. Bohdana FILOVÁ**, Technical University Berlin, D

Rail break detection in the driveless metro operation

**Ing. Alois KOTRBA, Ph.D.**, ČD j.s.c. DKV Brno, CZ

The abrasion of the ride profile on the mounted wheels of the electric units type 560

## WSession B, September 20, 2007

### 8.00 - 9.40 Lectures

**Ing. Miloš SLÁVIK, Ing. Rudolf SLEZÁK**, Railway company Slovensko, j.s.c., Bratislava, SK

New construction units in locomotives ZSSK

**Ing. Vít MIKULA**, Faculty of Mechanical Engineering, ČVUT Prague, CZ

Trends in the development of bogie design for electric locomotives

**Ing. Jozef KUCHTA, Ph.D., Ing. Martin FRANKO**, EVPÚ j.s.c., Nová Dubnica, SK

The concept of the traction circuits for modernizing electric locomotives on two traction feed system

**Ing. Bohumil SKÁLA**, CZ LOKO, j.s.c., Nymburk, CZ

VZ LOKO diesel locomotives

**Ing. Josef KOLÁŘ, Ph.D.**, Faculty of Mechanical Engineering, ČVUT Prague, CZ

The application of inter articulated active coupling in low-floor tramways

### 9.40 - 10.00 Coffee break

### 10.00 - 11.20 Lectures

**Ing. Pavel SÁLA, Ph.D., Ing. Milan ŠRÁMEK**, ŠKODA TRANSPORTATION, Ltd., Pilsen, CZ

The five-sectional bi-directional low-floor tramcar of type ŠKODA 06 T for 950 mm gauge

**Ing. Pavol PETREK**, UniControls, j.s.c., Prague, CZ

System TELERAIL - monitoring and diagnostic system on the vehicle units EMJ471

**Ing. Jan KONARSKI**, AŽD Praha, Ltd., **Dr. Ing. Tomáš BŮBELA**, ELCOM j.s.c., Brno, CZ

Influence of dangerous current on track circuits

**Ing. László ZSÁKAY**, MÁV Budapest, HU

Locomotive on-board equipment

## WSession C, September 20, 2007

### 8.00 - 9.40 Lectures

**Ing. Zdeněk FRIEDRICH**, Railway Company Cargo Slovakia, j.s.c., Bratislava, SK

Elimination of noise loading from freight railway transport

**Ing. Petr BUDEK, Ing. Miroslav CHMELÍČEK**, ŠKODA VÝZKUM, Ltd., Pilsen, **Ing. Vladimír JEHLIČKA, Ph.D.**, ÚT AV ČR, Prague, CZ

Noise prediction on the basis of statistical energy analysis

**Ing. Jan HLAVÁČEK**, VUZ, j.s.c., Prague, CZ

The noise measurement according TSI CR Noise on the reference track section

**Ing. Rudolf ŘEZNIČEK Ph.D., Ing. František NOVÝ, Ph.D.**, FME, University of Žilina, SK

Properties of railways disc brake pads

**dr inż. Andrzej HEŁKA**, University of Technology, Katowice, PL

Use of an artificial neural networks in the shoe exploitation tests

### 9.40 - 10.00 Coffee break

### 10.00 - 11.20 Lectures

**Ing. Radek WESTFÁL, Ing. Jiří MALINSKÝ**, VÚKV, j.s.c., Prague, CZ

Modern equipment for freight wagon brake testing

**Dr. Ing. Milan SCHUSTER**, ŠKODA VÝZKUM, Ltd., Pilsen, CZ

The air conditioning system for locomotive driver's cabin

**Assoc. prof. Ing. Ján LÁBAJ, Ph.D.**, FME University of Žilina, **Ing. Ferdinand JANÍČEK**, Tatravagónka j.s.c., Poprad, SK

CAD/CAE systems interactivities at rail vehicle air conditioning systems computer design

**Ing. Tomáš WŮDY**, Faculty of Mechanical Engineering, ČVUT Prague, CZ

Structural design of full laminated car body of tram

**g 12.30** Departure of special train from Žilina to Vrútky

**g 13.00** Lunch and visit of exhibition ŽEL-RAIL 2007 at Vrútky

**g 17.30** Departure of special train from Vrútky to Žilina

## September 21, 2007 - Friday

## WSession A, September 21, 2007

### 8.00 - 9.40 Lectures

**Ing. Miroslav BYRTUS, Ph.D., prof. Ing. Vladimír ZEMAN, DrSc., assoc. prof. RNDr. Zdeněk HLAVÁČ, Ph.D.**, West Bohemian University in Pilsen, CZ

Modelling and dynamical analysis of an individual wheelset drive of a railway vehicle

**Ing. Radek KOTTNER, Bc. Jan KRYSTEK, assoc. prof. Ing. Vladislav LAŠ, Ph.D.**, West Bohemian University in Pilsen, CZ

Comparison of composite and metal axles in terms of stiffness and weight