

Scientific Society for Mechanical Engineering
Department of Rolling Stock

*13TH INTERNATIONAL
CONFERENCE ON*

RAILWAY BOGIES AND RUNNING GEARS



CONFERENCE PROGRAM

<https://events.gteportal.eu/bogie26/>

**9 - 12 FEBRUARY, 2026
BUDAPEST, HUNGARY**

**13th International Conference on
Railway Bogies and Running Gears**
hosted by the
Department of Rolling Stock, SSME
Budapest, Hungary,
9 - 12 February, 2026

Patrons of the Conference:

Mr. Zsolt HEGYI

CEO of the MÁV Zrt.

Mr. Dafa JIANG Dr.

Head of R&D Center at CRRC ZELC EUROPE

Mr. Tibor KOZMA

Head of Department at Ministry for Construction and Transport

Mr. Szilárd KÖVESDI

CEO of the GYSEV Zrt.

Mr. Péter NAGY

Managing Director of the Stadler Magyarország Ltd.

Mr. Sándor SOLTÉSZ

Managing Director of the Ganz Motor Ltd.

Mr. Péter TAKÁCS Dr.

CEO of the BKV Zrt.

President of the Conference:

Prof. András SZABÓ (Hungary)

Co-Chairman of the Conference:

Prof. Lajos BORBÁS (Hungary)

International Scientific Committee:

Prof. Péter BÉDA (Hungary)

Prof. Lajos BORBÁS (Hungary)

Prof. Stefano BRUNI (Italy)

Prof. László LOVAS (Hungary)

Prof. Akira MATSUMOTO (Japan)

Prof. Sergey MYAMLIN (Ukraine)

Prof. Oldrich POLACH (Switzerland)

Prof. Christian SCHINDLER (Germany),

Prof. András SZABÓ (Hungary)

Prof. Nalinaksh S. VYAS (India)

Prof. Zoltán ZÁBORI (Hungary)

Prof. Péter ZWIERCYK (Hungary)

Organising Committee:

Ms. Krisztina Bárdos Dr. (SSME Resp. Hungary)

Mr. Gergely Bézi (Hungary)

Mr. József Csiba Dr. (Hungary)

Mr. Tamás Demus (Hungary)

Mr. Péter Ferencz (Conference Secretary, SSME Resp. Hungary)

Mr. Máté M. Szűcs (Hungary)

Mr. István Németh (Hungary)

Mr. Balázs Zsolt Orbán (Hungary)

Ms. Orsolya Szántó (SSME Resp. Hungary)

Mr. Gergely Tulipánt Dr. (Hungary)

CONFERENCE PROGRAM

FIRST DAY

9 February, 2026 Monday

Registration opens at the Conference Venue at the
Budapest University of Technology and Economics
Building 'A' Conference Hall at 12:00

Special Workshop on

Vehicle System Dynamics, Identification and Anomalies
Issues of Digital Automatic Coupling operation in the EU

14:00

Session Chairman: Prof. András Szabó

Session Secretary: Mr. Péter Ferencz

SZABÓ, A. (Hungary)

Presidential opening speech

BÁRDOS, K. (Hungary)

On current activities of the Hungarian Scientific Society for Mechanical Engineering, festive greetings by the Managing Director

KNORR-BREMSE (Germany)

Keynote presentation on the development of the DAC Digital Automatic Coupling

Coffee Break: 15:00

PANEL DISCUSSION 15:30

Session Chairman: Prof. Péter Zwierczyk

Session Secretary: Mr. Péter Ferencz

Panel Members are from Entities as of:

Akiem SAS

Budapest University of Technology and Economics

Europe's Rail DACFIT Project

Knorr-Bremse GmbH.

Rail Cargo Hungary Co.

Visiting of the University BME Laboratory with DAC units prepared

16:45

First Day Evening Program 19:00

CONFERENCE GRAND OPENING RECEPTION

at the

DANUBE HALL of the

Budapest University of Technology and Economics

Building “K”, 1st floor

with festive addresses of the Conference Hosts and Patrons

SECOND DAY

10 February, 2026 Tuesday

SESSION LECTURES 9:00

Session Chairman: Prof. Zoltán Zábori

Session Secretary: Mr. Máté M. Szűcs

DING, X. P. – Teng, W. – Li, J. – Wang, W. – Zhang, L. (China)

Monitoring Method for Hunting Problem of High-Speed Train Based on Fusion of Rail Image and Vehicle Acceleration

M. SZÚCS, M. (Hungary)

Investigation into the effect of worn wheel and rail profiles on the energy dissipation realized in the wheel-rail connection of a railway vehicle traveling in a curve

BÉZI, G. – FERENCZ, P. (Hungary)

Validation of smartphone-based acceleration measurements for running quality assessment of an electric locomotive

MICHÁLEK, T. – VOLTR, P. – LIBEROVÁ, S. – KOHOUT, M. – JENIS, F. (Czech Republic)

Examples of practical use of an Electric Multiple Unit Multi-Body model developed in the simulation tool at the University of Pardubice

Coffee Break: 10:20

SESSION LECTURES 10:50

Session Chairman: Prof. Lajos Borbás

Session Secretary: Mr. Péter Ferencz

YUAN, Z. (China)

Structural Design of Articulated Bogies with Built-in Axle Boxes for Light Rail Vehicles

DIZO, J. – LOVSKA, A. – BLATNICKY, M. – BUCKO, M. – ISHCHUK, V.

(Slovak Republic)

Research into influence of flexibility of a freight wagon bogie frame on the output parameters

HAN, J. – YAO, S. – ZHAN, L. (China)

Lightweight design of bogie frame for 400 km/h based on structural optimization technology

Lunch Break: 12:00

SESSION LECTURES 14:00

Session Chairman: Prof. László Lovas

Session Secretary: Mr. Balázs Orbán

GAO, H. (China)

Structural Optimization of the Upper Traction Device Based on the Finite Element Method

Wang, C. (China)

Causes Analysis of Abnormal Temperature Fault in Metro Vehicle Axle Box Assembly Based on FTA Theory

BERG, S. – GIL, P. – SCHINDLER, Ch. – PFAF, R. (Germany)

Parametric Study Comparing Rolling Contact Fatigue Prediction

Coffee Break: 15:00

SESSION LECTURES 15:30

Session Chairman: Prof. Nalinaksh S. Vyas

Session Secretary: Mr. István Németh

ORBÁN, B. – FICZERE, P. (Hungary)

On the effects of changes in characteristics of rubber springs exposed to environmental impacts

XU, G. – PENG, X. – JIANG, D. – ZHANG, B. – LIU, G. – CAI, Y. (China)

Multi-objective optimization of suspension parameters for locomotive bogie under worn wheel condition

HAO, Q. – CHU, Y. (China)

Optimization and experimental study on key parameters of secondary suspension for high-speed metro vehicles

Coffee Break: 16:20

SESSION LECTURES 17:00

Session Chairman: Prof. Péter Béda

Session Secretary: Mr. Máté M. Szűcs

YU, M. – LI, T. – ZHENG, C. – HAO, Q. – LIN, F. (China)

Optimization of Suspension Parameters and Vibration Characteristics of Urban Rail Vehicles Based on Mechanism-Data Fusion

GERLICI, J. – LOVSKA, A. – DIZO, J. – RYBIN, A. (Slovak Republic)

Study of dynamic characteristics of an open wagon on bogies 18-100 with different variants of elastic spring suspension elements

MYAMLIN, V. S. – LOZOVYI, Y. – MYAMLIN, S. S. – LOZOVA, A. (Ukraine)

Improvement of the spring suspension design of railway rolling stock bogies

Introduction presentation of exhibitor Companies

Evening Program 18:30

Dinner at the University Cantine

THIRD DAY

11 February, 2026 Wednesday

SESSION LECTURES 9:00

Session Chairman: Prof. Péter Zwiercyk

Session Secretary: Mr. Balázs Orbán

ZÁBORI, Z. (Hungary)

Energetic analysis of the derailment process of a railway wheelset as a function of the elastic support of the track

LIU, Y. (China)

Research on Steering Control Strategy of the Runing Gears of Virtual Rail Train

VYAS, N. S. – DESAPPAN, S. R. (India)

Signal Processing and CNN-Based Classification Framework for Rolling Stock Condition Assessment using WILD Data

DÖBRENTÉI, S. (Hungary)

Prediction of crack plane orientation in railway wheels for different braking conditions

Coffee Break: 10:20

SESSION LECTURES 10:50

Session Chairman: Prof. László Lovas

Session Secretary: Mr. Máté M. Szűcs

CHVOJAN, J. – VACLAVIK, J. – WEBER, F. J. (Czech Republic)

Locomotive composite drive shaft strength investigation

KISS, Cs. (Hungary)

Experiences and lessons on the bogie crisis of the V43 series electric locomotives of the Hungarian State

ZUDOR, L. B – ZWIERCYK, P. (Hungary)

Crack detection opportunities on railway surfaces

Lunch Break: 12:00

SESSION LECTURES 14:00

Session Chairman: Prof. András Szabó

Session Secretary: Mr. Péter Ferencz

BKV Zrt. (Hungary)

Introduction to the operation and vehicles of the first electric powered subway line of the World, Metro line M1 Budapest, Hungary

Afternoon and Evening Program:

Visiting the

BKV Zrt.

***MAINTENANCE WORKSHOP AND DEPOT of the
METRO LINE M1, BUDAPEST***

inclusive heritage rides on bus and metro vehicles

After the visit ca. at 18:00

***CONFERENCE BANQUET DINNER
at the RESTAURANT BÚSULÓ JUHÁSZ***

<https://www.busulojuhasz.hu/>

Heritage bus ride leaves the conference venue at 14:30

FOURTH DAY

12 February, 2026 Thursday

SESSION LECTURES 9:00

Session Chairman: Prof. Gergely Tulipánt

Session Secretary: Mr. István Németh

FICZERE, P. – BORBÁS, L. (Hungary)

A comprehensive study on the sources and effects of railway noise

MOOCK, E. – RAKOWITSCH, M. – PFAFF, R. (Germany)

Influence of structural vibrations on polygonization on tramways

LI, Z. (China)

Research on Improving the Operational Reliability of Axle Box Assemblies at Grounding Ends Under Abnormal Vibration Conditions

Coffee Break: 10:00

SESSION LECTURES 10:40

Session Chairman: Prof. Lajos Borbás

Session Secretary: Mr. Péter Ferencz

CHU, Y. – HAO, Q. (China)

Research on Train Brake Disc Wear Life Prediction System Based on BP Neural Network

ZWIERCYK, P. (Hungary) – *Invited lecturer*

Possible failure modes in the wheel-rail connection caused by modern rail anti-spin devices – a review

NÉMETH, I. (Hungary)

Crack detection opportunities on railway surfaces

The BOGIE'26 CAKE CEREMONY

and

CLOSING ADDRESS

by Conference President Prof. András Szabó

Farewell Drink

12:00