

Scientific Society for Mechanical Engineering
Department of Rolling Stock

*12TH INTERNATIONAL
CONFERENCE ON*
**RAILWAY BOGIES AND
RUNNING GEARS**



CONFERENCE PROGRAM

<https://events.gteportal.eu/en/bogie2022/>

**5 - 8 SEPTEMBER, 2022
BUDAPEST, HUNGARY**

**12th International Conference on
Railway Bogies and Running Gears**
hosted by the
Department of Rolling Stock, SSME
Budapest, Hungary,
5 - 8 September, 2022

Patrons of the Conference:

Prof. László PALKOVICS

Minister of Technology and Industry

Mr. Szilárd KÖVESDI

CEO of the GYSEV Co.

Mr. Péter NAGY

Managing Director of the Stadler Magyarország Ltd.

Mr. István SCHWARTZ

CEO of the Dunakeszi JJ Ltd.

President of the Conference:

Prof. András SZABÓ (Hungary)

Co-Chairman of the Conference:

Prof. Lajos BORBÁS (Hungary)

International Scientific Committee:

Prof. Stefano BRUNI (Italy),

Prof. Akira MATSUMOTO (Japan),

Prof. T.X. MEI (United Kingdom),

Prof. Sergiy V. MYAMLIN (Ukraine),

Prof. Oldrich POLACH (Switzerland),

Prof. Christian SCHINDLER (Germany),

Prof. Nalinaksh S. VYAS (India).

Organising Committee:

Dr. Krisztina BÁRDOS,

Dr. József CSIBA,

Mr. Tamás DEMUS,

Mr. Péter FERENCZ,

Mr. Máté M. SZÚCS

Mr. István NÉMETH,

Mr. András SCHINDLER,

Ms. Orsolya SZÉKELY,

Dr. Gergely TULIPÁNT,

Dr. Zoltán ZÁBORI.

PRELIMINARY PROGRAM

FIRST DAY

5 September, 2022 Monday

OPENING CEREMONY 10:00

SZABÓ, A. (Hungary)

Presidential opening speech

PATRONS' FESTIVE ADDRESSES

SZABÓ, A. (Hungary), **BORBÁS, L.** (Hungary)

In Memoriam Prof. István Zobory

Preparation Break 10:45

SESSION LECTURES 11:00

Session Chairman: Prof. András Szabó

Session Secretary: Mr. Péter Ferencz

ITO, S. – FUJIMOTO, T. – SHINAGAWA, D. – SHIMOKAWA, Y. – MINAMI, H. – KONDO, O. – IOKIBE, G. – NAKAGAWA, J. (Japan)

Development of a bogie frame monitoring system using a stress estimation method *-on-line*

MYAMLIN, S. V. – BURES, F. (Ukraine)

Development of universal railway bogies for autonomous traction modules – *on-line*

KUMAR, R. – YADAV, O. P. – PANDEY, M. – VYAS, N. S. (India)

Suspension failure detection in railway bogies using artificial neural network – *on-line*

Taking CONFERENCE PHOTO: 12:20

Lunch Break: 12:30

SESSION LECTURES 14:00

Session Chairman: Prof. Lajos Borbás

Session Secretary: Mr. István Németh

**MAKINO, T. – KATO, T. – HASEGAWA, S. –
YAMAZAKI, Y. – KIKKO, S. – SHIMOKAWA, Y.**
(Japan)

Partial safety factor based estimation method of
the fatigue life and failure probability of welds in
railway bogie frames – *on-line*

MYAMLIN, S. V. – MANKEVICH, N. (Ukraine)

Development of the design of freight car bogies for
different tracks *on-line*

SCHINDLER, Ch. (Germany)

In Memoriam Prof. Otmar Krettek – *on-line*

Coffee Break: 15:00

SESSION LECTURES 15:20

Session Chairman: Dr. Oldrich Polach

Session Secretary: Mr. Péter Ferencz

SZABÓ, A. (Hungary)

Simple model and computation procedure of the
starting and stopping of the railway wheel

CSÉPKE, R. (Hungary)

Analysis of tram rail-wheel contact geometry in
Hungarian country-side

TILLMETZ, K. (Switzerland) – **CICHON, M.** (Ger-
many)

Safety against derailment of rack railways with spe-
cial consideration of helix twist of track

Evening Program 18:00

CONFERENCE RECEPTION

at the **DANUBIUS HOTEL HUNGARIA**

SECOND DAY

6 September, 2022 Tuesday

SESSION LECTURES 9:00

Session Chairman: Prof. Zoltán Zábori

Session Secretary: Mr. Máté M. Szűcs

YADAV, O. P. – KUMAR, R. – VYAS, N. S. – BHATIA, M. (India)

A feasibility study on condition monitoring of railway disc brake system

MAZZEO, F. - SANTELIA, M. – CONFALONIERI, G. – VIGNATI, M. – MELZI, S. (Italy)

Multi-body analysis of a brake rigging mechanism of a freight train

KRÉMER, M. (Hungary)

New Bogie construction requirements considering advanced brake functions

NÉMETH, I. (Hungary)

Vibration Attenuation of Disc-Brake Systems

Coffee Break: 10:20

SESSION LECTURES 10:50

Session Chairman: Prof. Nalinaksh S. Vyas

Session Secretary: Mr. István Németh

NAGY, A. – KOVÁCS L. - TURCSÁN, T. – TAKÁCS, L. (Hungary)

Computer aided fatigue analysis and validation of a welded bogie structure

MICHÁLEK, T. - KOHOUT, M. - ŠLAPÁK, J. - VÁGNER, J. - PULDA, J. - TÁBORSKÝ, J. – KRÁLÍK, M. (Czech Republic)

Experimental measurement and simulation of running resistance of container trains

M. SZÚCS, M. – ZÁBORI, Z. (Hungary)

Dynamical investigation of a railway wheelset running in curve

Lunch Break: 12:20

SESSION LECTURES 14:00

Session Chairman: Prof. József Csiba

Session Secretary: Mr. Máté M. Szűcs

RANGANATHAN, P. – SCHINDLER, Ch. (Germany)

An Unconventional Roller Test-rig for the Investigation of Rolling Contact Fatigue and Wear Phenomena in Railway Wheels and Rails

FERENCZ, P. (Hungary)

Analysis aspects of vertical dynamics model implementation into simulation methods to assess influences of secondary suspension system anomalies on wheel profile wear

BUZZI, C. – DUTZLER, A. – FAETHE, T. – LASSACHER, J. – LEITNER, M. – WEBER, F. J. (Austria)

Development of a tool for estimating the characteristic curves of rubber-metal parts

Coffee Break: 15:00

SESSION LECTURES 15:20

Session Chairman: Prof. Lajos Borbás

Session Secretary: Mr. Péter Ferencz

BÁRDOS, K. – BORBÁS, L. (Hungary)

On current activities of the Hungarian Scientific Society for Mechanical Engineering

Introduction presentation of exhibitor Companies

Evening Program

***NARROW-GAUGE-RAILWAY
PARTY***

Buses leave the Conference site at 16:00

Travel with historical train on the
MÁV Children's Railway line.

Buses return to the Hotel by cca. 19:30 and dinner at the

Danubius Hotel Hungaria.

THIRD DAY

7 September, 2022 Wednesday

SESSION LECTURES 9:00

Session Chairman: Prof. Nalinaksh S. Vyas

Session Secretary: Mr. István Németh

**DING, X. – NETTER, H. – CHEN, G. – SUN, Q. -
CAO, X. – MARKERT, B** (Germany)

Research of the aerodynamic load influence on the car-body hunting motion of high-speed train

KOLBE, T. (Germany)

From instability to low frequency body motion -
Contact geometry versus design of the vehicle

CHVOJAN J. (Czech Republic)

Strength verification of dynamically stressed components of rolling stocks outside the mainstream activities of dynamic testing laboratory VZU Pízen

Coffee Break: 10:10

SESSION LECTURES 10:40

Session Chairman: Prof. Zoltán Zábóri

Session Secretary: Mr. Máté M. Szűcs

NÉMETH, G. – MARX, J. – WEBER, F. J. (Austria)
Prisma SinusJet Gen 3.0 High-Speed Wheelset Testing. First Experiences and Outlook

GIL, P. – RAKOWITSCH, M. – SCHINDLER, Ch.
(Germany)

Experimental Investigation on the Formation of Railway Wheel Polygonisation

BORBÁS, L. – FICZERE, P. (Hungary)

Investigation of the pressing process of railway wheels using photostress analysis

Lunch Break: 12:00

SESSION LECTURES 14:00

Session Chairman: Prof. Lajos Borbás

Session Secretary: Mr. Péter Ferencz

NAGY, P. (Hungary)

Introduction presentation to the Stadler BRCC bogie workshop and activities at Szolnok, Hungary

Afternoon and Evening Program:

Visiting the

STADLER MAGYARORSZÁG Ltd.

**BOGIE REVISION CENTRE OF
COMPETENCE WORKSHOP**

at Szolnok

After the visit:

**COUNTRY CONFERENCE
BANQUET**

Buses leave the conference site at 14:30

Buses return to Danubius Hotel Hungaria

cca. at 22:00

FOURTH DAY

8 September, 2022 Thursday

SESSION LECTURES 10:00

Session Chairman: Prof. András Szabó

Session Secretary: Mr. Tamás Demus

DEMUS, T. (Hungary)

Estimation of input data for dynamic simulations based on field measurement data

ZÁBORI, Z. (Hungary)

Investigation of a Derailment Process of a Railway Wheelset Considering the Effect of the Track Supporting Stiffness

SCHNEIDER, P. – STRATMANN, I. – WEGENER, M. – SCHNEIDER, P. – SCHINDLER, Ch. (Germany)

Identification and parameterization of wear mechanisms by scattered light measurements on a single-wheel roller test rig

WEBER, F.J. – STEINACHER, M. – STROMMER, K. (Austria)

Light weight construction: Innovative solutions for core components of railway bogies (Siemens Mobility Austria, Graz)

Lunch Break: 12:00

CLOSING ADDRESS 14:00

*by Conference President Prof. András Szabó
Farewell Drink*