

## Information and Invitation

13<sup>th</sup> international symposium

**PASSIVE SAFETY  
of RAIL VEHICLES**

CONFERENCE DATE:  
21<sup>st</sup> - 22<sup>nd</sup> of March 2024

Deadline for your application:  
14<sup>th</sup> of March 2024



**BAHN  
VERBAND  
e.V.**

**Railway-Symposium★info**

Welcome to the international RAILWAY-SYMPOSIUM in Berlin!

13<sup>th</sup> international symposium

# **PASSIVE SAFETY of RAIL VEHICLES**

**Berlin,  
21<sup>st</sup> - 22<sup>nd</sup> of March 2024**

[www.passive-safety-symposium.info](http://www.passive-safety-symposium.info)



*APPLY NOW to join international symposium, the exhibition and be a part of the worldwide community of experts in the field of passive safety of rail vehicles and interior design.*

*Official partners of the exhibition PASSIVE SAFETY and INTERIOR DESIGN 2024*

**STADLER**

**SIEMENS ALSTOM**

U.S. Department of Transportation  
**Volpe Center**

**JR** Railway Technical Research Institute

**VÖK** GREEN BUFFERS

**KRI** Korea Railroad Research Institute  
Protection Engineering CONSULTANTS

**SNCF** **OLEO** INTERNATIONAL

Place YOUR COMPANY LOGO  
as official partner of #PS2024



✓ **SYMPOSIUM**

✓ **EXHIBITION**

✓ **NETWORKING**

**[www.passive-safety-symposium.info](http://www.passive-safety-symposium.info)**

## WHY to join the international symposium for railway and passive safety experts?

During the 13<sup>th</sup> symposium in March 2024 all relevant aspects of PASSIVE SAFETY of different categories of rail vehicles (vehicles for high speed transportation systems, light rail vehicles, trams, locomotives, coaches, freight waggon etc.) shall be reflected.

Speakers from many countries are showing highly specialised presentations to discuss relevant topics with participants from all over the world. We are looking forward to seeing you in Berlin!

If the following topics are relevant to your current fields of work, the upcoming RAILWAY-SYMPOSIUM is important for you!

[Railway-Symposium.info](http://Railway-Symposium.info)

### PASSIVE SAFETY of RAIL VEHICLES

- \* RAILWAY VEHICLES
- \* CRASH ENERGY MANAGEMENT
- \* INTERIOR EQUIPMENT
- \* COLLISION SCENARIOS
- \* CRASHWORTHINESS REQUIREMENTS

### RESEARCH & DEVELOPMENT

- \* SCIENTIFIC RESEARCH
- \* PRODUCT DEVELOPMENT
- \* SIMULATION AND TESTING
- \* (NEW) MATERIALS

## PASSIVE SAFETY of RAIL VEHICLES

Berlin, 21<sup>st</sup> - 22<sup>nd</sup> of March 2024



### REGULATIONS

- \* INTERNATIONAL ASPECTS:  
ASIA, EUROPE, U.S.A.
- \* LEGISLATION
- \* REVISION OF THE EN 15227

### WORKSHOP / THINK TANK

- \* Crash Energy Management
- \* Interior Equipment
- \* DIGITAL RAIL

## PROGRAMME on Thursday, 21<sup>st</sup> of March 2024

13<sup>th</sup> international symposium on PASSIVE SAFETY of RAIL VEHICLES in Berlin / Germany

© 09:00 - 10:00 CHECK-IN-TIME: Come together / Exhibition / Networking Coffee #1

### PASSIVE SAFETY OF RAIL VEHICLES 2024: INNOVATIONS IN PASSIVE SAFETY.

(INAUGURAL ADDRESS #PS2024: PASSIVE SAFETY, CRASHWORTHINESS AND INTERIOR DESIGN)

Dipl.-Volkswirt Eckhard **SCHULZ** (Managing Director); [BAHNVERBAND e.V.; IFV Bahntechnik; Berlin / Germany]

### ON THE DEVELOPMENT OF CRASHWORTHINESS DESIGN IN RAILWAY VEHICLES: AN OVERVIEW.

Dipl. Ing. Dr. habil. Alois **STARLINGER** (Member of the Group Executive Board, Head of Vehicle Authorization, Structural Analysis & Testing); [Stadler Rail Group; Altenrhein / Switzerland]

### LAST RETURNS OF EXPERIENCE ON THE CRASHWORTHY ROLLING STOCK IN FRANCE.

(OCCUPANT PROTECTION, ROLLING STOCK PROTECTION; EN15227 VS SNCF REQUIREMENTS)

Patrick **JUMIN**, Ph.D. (National technical expert for carbody structure and interfaces, Rolling stock referent); [SNCF, Rolling Stock Engineering Center; Le Mans / France] {and} Khalid El MOUAHHID {and} Aurélie GOUDÉ

© COFFEE BREAK Networking time and exhibition PASSIVE SAFETY #2

### NUMERICAL SIMULATION OF THE REAL COLLISION OF THE LOCOMOTIVE CLASS 742 WITH THE SINGLE-DECKER ELECTRIC UNIT. (REAL COLLISION, SIMULATION MODEL AND ANALYSIS)

Dr.-Ing. Zdeněk **MALKOVSKY** (Managing Director, CEO); [VÚKV a.s., Prague / Czech Republic] {and} Dipl.-Ing. Roman **JEŽDÍK** (Structural Engineer); [VÚKV a.s., Dept. of vehicle strength; Prague / Czech Republic]

### SOME RESULTS OF THE PROJECT „ANALYSIS OF A TRAM-PEDESTRIAN COLLISION:

VALIDATION OF SIMULATION MODELS“. (VALIDATION OF CORRESPONDING SIMULATION MODELS)

Dipl.-Ing. Roman **JEŽDÍK** (Structural Engineer); [VÚKV a.s., Dept. of vehicle strength; Prague / Czech Republic] {and} Dipl.-Ing. František **LOPOT**, Ph.D. (Head of Department of Designing and Machine Components); [Czech Technical University; Faculty of Mechanical Engineering; Prague / Czech Republic] {and} Ing. Vojtěch **RULC**, Ph.D.; [Advanced Engineering s.r.o. ; Prague / Czech Republic]

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### AMTRAK PASSENGER TRAIN DERAILMENT INVESTIGATION, SEPTEMBER 25, 2021, JOPLIN, MONTANA / U.S.A.: WINDOW RETENTION AND OTHER PASSIVE SAFETY FEATURES IN A ROLLOVER DERAILMENT.

Kristine **SEVERSON**, M.Sc. Mechanical Engineering (Senior Mechanical Engineer/Project Manager Interior Occupant Protection); [U.S. Department of Transportation, Volpe National Transportation Systems Center, Structures and Dynamics Division; Cambridge, MA / U.S.A.]

### LOCOMOTIVE TRAIN-TO-TRAIN IMPACT TEST:

WHEELCHAIR RESTRAINT AND OCCUPANT PROTECTION EXPERIMENTS.

Kristine **SEVERSON**, M.Sc. Mechanical Engineering (Senior Mechanical Engineer/Project Manager Interior Occupant Protection); [U.S. Department of Transportation, Volpe National Transportation Systems Center, Structures and Dynamics Division; Cambridge, MA / U.S.A.]

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### LOCOMOTIVE CRASH ENERGY MANAGEMENT TRAIN-TO-TRAIN IMPACT TEST RESULTS.

Karina **JACOBSEN**, M.Sc. (Senior Mechanical Engineer); [U.S. Dept of Transportation (Volpe National Transportation Systems Center); Cambridge, MA / U.S.A.] {and} Patricia **LLANA**, M.Sc. (Senior Mechanical Engineer); [U.S. Department of Transportation, Volpe National Transportation Systems Center, Cambridge/MA]

### WORKSHOP & DISCUSSION ON PASSIVE SAFETY OF RAIL VEHICLE (VARIOUS COUNTRIES)

N.N.; N.N.; N.N.

### IMPROVEMENT OF PASSIVE SAFETY: RELEVANT CHALLENGES FOR FUTURE RESEARCH PROJECTS

N.N.; THINK TANK RAILWAY TECHNOLOGY / Working group PASSIVE SAFETY [optional]

© 17:15 (approx.) End of the programme of the FIRST CONFERENCE DAY

TRANSFER to the Restaurant for the TRADITIONAL EVENING EVENT in Berlin #5

BUSINESS CARD EXCHANGE MEETING for the participants of Passive Safety 2024

## PROGRAMME on Friday, 22<sup>nd</sup> of March 2024

13<sup>th</sup> international symposium on PASSIVE SAFETY of RAIL VEHICLES in Berlin / Germany

© 08:30 - 09:00 CHECK-IN-TIME: Come together / Exhibition / Networking Coffee #6

### CRASHWORTHINESS AND INTERIOR DESIGN: NATIONAL MARKETS & INTERNATIONAL PERSPECTIVES.

Dipl.-Volkswirt Eckhard **SCHULZ** (Managing Director); [BAHNVERBAND e.V.; IFV Bahntechnik; Berlin / Germany]

### APPLICATION OF GM/RT2100 TO DEVELOP A CAB SEAT ZONE: NUMERICAL AND TESTING PROCESSES. PERSPECTIVES OF APPLICATION ON THE U.S. MARKET. (REQUIREMENTS, DRIVER'S PROTECTION, DESIGN CONCEPT, SIMULATION AND TESTING)

Dipl.-Ing. Arts et Métiers (ENSAM) Dominique **LE CORRE** (Head of Crash Center of Competence and Innovation Manager); [ALSTOM S.A.; Haguenau / France]

### A CASE STUDY ON THE TYPE APPROVAL OF CRASH SAFETY FOR RAILWAY VEHICLES IN KOREA: EXPERIENCES WITH EN 15227 IN KOREA. (TYPE APPROVAL AND CRASHWORTHINESS)

Jinsung **KIM**, Ph.D. (Principal Researcher); [Korea Railroad Research Institute, Dept. Railroad Accident Research; Uiwang / Korea] {and} Baehwa **LEE** (Principal Researcher); [Hyundai-Rotem Co., Structure Design Research & Development; Korea]

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### EVALUATION OF LEG INJURY TO RAIL PASSENGER OCCUPYING WALKOVER SEAT IN A TRAIN ACCIDENT. (INTERIOR PASSIVE SAFETY, WALKOVER SEAT, LEG INJURY)

Dr. Eng. Kazuma **NAKAI**, (Senior researcher); [Railway Technical Research Institute; Ergonomics Laboratory, Human Science Division; Tokyo / Japan]

### SEVERAL IMPACT TESTS AND FE ANALYSES TO CONSTRUCT FE MODEL OF ALUMINUM ALLOY RAILWAY CARBODY STRUCTURE. (ALUMINUM DOUBLE-SKIN EXTRUSION, STRUCTURE, IMPACT TEST)

Keisuke **NAGATA**, M.Sc. (Assistant senior researcher); [Railway Technical Research Institute, Dept. of Vehicle and Bogie Parts Strength, Vehicle Technology Division; Tokyo / Japan]

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### SPEED-DEPENDENT RESPONSE MODEL OF RAILWAY COUPLING BUFFERS USING DEEP NEURAL NETWORKS. (TRAIN COUPLING SIMULATION, SPEED-DEPENDENT CHARACTERISTICS OF ENERGY ABSORBERS; HYDROSTATIC VS. HYDRAULIC BUFFER; MULTIBODY DYNAMICS)

Junhyeok **HWANG**, cand. Ph.D. (Researcher); [Korean Railroad Research Institute (KRRI); Uiwang / Korea]

### GREEN BUFFERS: IMPROVED CRASH MANAGEMENT SYSTEM. (MANAGING MULTIPLE DESIGNED COLLISION SPEEDS THEN THE BUFFERS CONTROL THE RELEASE OF CRASH ENERGY AND PROGRESSIVELY ABSORB IT THROUGHOUT THE COMPLETE TRAINSET)

Roger **DANIELSSON** (CEO); [GREEN BUFFERS AB; Avesta / Sweden]

© COFFEE BREAK Networking time and exhibition PASSIVE SAFETY #9

### DIGITAL TWINS IN PASSIVE SAFETY. (RETROFITTING INCREASED CRASHWORTHINESS TO EXISTING PASSENGER COACHES; TRAIN CURRENTLY FITTED WITH 901 AAR STYLE DRAFT GEAR; SOLUTION PROPOSED TO ADD HIGH CAPACITY SIDE BUFFERS)

David **GRIFFITHS** (Global Product Manager); [OLEO International (Engineering); Coventry / UK]

### MULTIDIRECTIONAL BREAKAWAY CONNECTION FOR CATENARY POLES. (DERAILMENT IMPACT)

Michalis **HADJIOANNOU**, Ph.D. (Project Engineer); [Protection Engineering Consultants; Dripping Springs, USA]

### PASSIVE SAFETY 2024 AND BEYOND: THE FUTURE OF PASSIVE SAFETY OF RAIL VEHICLES

Dipl.-Volkswirt Eckhard **SCHULZ**; [THINK TANK RAILWAY SAFETY; Berlin / Germany] {and} Dipl.-Ing. Gerhard M. **SCHMIDT**; [Advisory Board, Railway-Association.eu] and [Siemens AG; Krefeld / Germany]

© End of the programme of the OFFICIAL PROGRAMME & FINAL NETWORKING (#10)

DEPARTURE TIME WILL BE (APPROX.): 16:15 ~ 16:30

#PS2024 - Programme brochure 2024-02-29 - Version 5.1 (update) \*\*\* The programme may be subject to alterations. \*\*\* The spoken word applies! The terms and conditions ([www.ifv-servicegesellschaft.de/download/agb.pdf](http://www.ifv-servicegesellschaft.de/download/agb.pdf)) are binding for all contracts with the organiser.



## GENERAL INFORMATION:

**Date of the symposium: 21<sup>st</sup>- 22<sup>nd</sup> of March 2024**

**Applications are welcome before 14<sup>th</sup> of March (final deadline)**

## VENUE:

**Hotel Steglitz International, Berlin ( <https://www.si-hotel.com> )**

## MORE INFORMATION:

**[www.passive-safety-symposium.info](http://www.passive-safety-symposium.info)**

## WHAT?

### Programme

The complete **PROGRAMME** of the 13<sup>th</sup> International Symposium **PASSIVE SAFETY of RAIL VEHICLES 2024 - #PS2014**

may be found online on the new conference homepage.

Conference language: English for presentations and publications

Check for updates of the programme, exhibitors and speakers list:

>>> **[www.passive-safety-symposium.info](http://www.passive-safety-symposium.info)**

## HOW?

### Application

#### **DEADLINE FOR PARTICIPANT APPLICATION:**

**Thursday, 14<sup>th</sup> of March 2024**

The mandatory APPLICATION FORM is available either on the conference website:

>>> **[www.passive-safety-symposium.info](http://www.passive-safety-symposium.info)**

or request your ticket directly in the new online **WebShop**

## WHERE?

### Venue

**HOTEL recommendation** for the symposium **PASSIVE SAFETY\*** in Berlin-Steglitz is the **Hotel Steglitz International**.

The complete list of hotels at the venue is available for registered participants. → Please ask the organiser BAHNVERBAND e.V. (Team Event-Management) for assistance.

\* Participants need a **check-in-card** to enter the conference rooms.

Registered participants will receive their **check-in-card** by e-mail or at the check-in-counter (after completing the payment process).

## QUESTIONS?

### Ask the Organiser

#### **CONTACT the organiser**

**Railway-Symposium★info**

BAHNVERBAND e.V. (Railway-Association.eu) in Cooperation with IFV Beratung und Service / HdV Service GmbH

Fregestr. 67, 12159 Berlin

Phone: +49(0)30 39720171 (Mr. Schulz, Managing Director, CEO)

Phone: +49(0)30 39720172 (Ms. Heyer, Event Management)

Phone: +49(0)30 39720170 (General Information, Payment)

E-mail: [tagung@bahnverband.info](mailto:tagung@bahnverband.info) or [event@ifv-bahntechnik.de](mailto:event@ifv-bahntechnik.de)

## VISIT!

### Exhibition

The **EXHIBITION** takes place during the symposium **PASSIVE SAFETY 2024 (21<sup>st</sup> - 22<sup>nd</sup> of March 2024 in Berlin)**.

Please ask for BRONZE, SILVER or GOLD packages for exhibitors or PLATINUM package for GENERAL sponsoring partnership.

The official list of EXHIBITORS and SPONSORING PARTNERS will be updated regularly on the conference homepage:

>>> **[www.passive-safety-symposium.info](http://www.passive-safety-symposium.info)**

## READ!

### Publication

The **PROCEEDINGS** of the recent **PASSIVE SAFETY symposia** are available as printed books (published by IFV BAHNTECHNIK).

**PASSIVE SAFETY 2024 = 280,00 EURO**

**PASSIVE SAFETY 2019 = 240,00 EURO**

**PASSIVE SAFETY 2017 = 210,00 EURO**

All available publications (PROCEEDINGS 2005 - 2024)

may be ordered directly from the publisher - (not via amazon!):

ORDER FORM >>> **[www.passive-safety-symposium.info](http://www.passive-safety-symposium.info)**

# APPLICATION FORM FOR CONFERENCE PARTICIPANTS

## PASSIVE SAFETY 2024

### THREE EASY STEPS FOR YOUR QUICK REGISTRATION PROCESS:

1. In order to be registered as a participant we ask you to book your ticket before 14<sup>th</sup> of March 2024. Please fill in the registration form and send it to BAHNVERBAND e.V. Berlin / Germany via e-mail or request your ticket online in the new WebShop.
  2. As soon as your registration form has arrived we will return a written confirmation of application and an invoice to the e-mail address you have stated. You will also receive a list of RECOMMENDED HOTELS at the venue for your convenient booking.
  3. The conference fee is due at the time of registration and has to be paid completely before 14<sup>th</sup> of March 2024. Only participants with valid check-in-card are allowed to enter the conference rooms and to join the symposium (and also the exhibition hall).
- \* The documents mentioned above will be sent to you by mail or via e-mail. Therefore we kindly ask you to state a valid e-mail address on the registration form. Attached to the e-mail you will also find addresses of recommended hotels and the directions to the conference venue. If you have any questions - just contact the organising team at BAHNVERBAND e.V. - ([www.Railway-Association.eu](http://www.Railway-Association.eu))!

**Herewith I declare my binding participation in the symposium >>> PASSIVE SAFETY 2024 <<< on 21<sup>st</sup> - 22<sup>nd</sup> of March 2024 in Berlin. The fee is due at the time of registration.**

**I agree with the terms and conditions of the organiser ([www.bahnverband.info/download/agb.pdf](http://www.bahnverband.info/download/agb.pdf)).**

Please send the completed and signed APPLICATION FORM  
via e-mail >>> [email@bahnverband.info](mailto:email@bahnverband.info) or >>> [tagung@bahnverband.info](mailto:tagung@bahnverband.info)

#### PARTICIPANT:

☐ Mr / ☐ Ms NAME: \_\_\_\_\_

Company (Dept.): \_\_\_\_\_

Street: \_\_\_\_\_

ZIP Code, City, Country: \_\_\_\_\_

Telephone / Cellular: \_\_\_\_\_

E-mail: \_\_\_\_\_

(YOUR VALID E-MAIL-ADDRESS IN CAPITAL LETTERS)

Billing Address: \_\_\_\_\_

UID-number: \_\_\_\_\_

The participant will receive extensive conference materials - including the printed proceedings PASSIVE SAFETY 2024.  
To promote the networking activities of participants and speakers, the evening event (Berlin by night) is already included.

**Complete payment must be received before 14<sup>th</sup> of March 2024.** in case of problems with bank transfer, delegates may pay on site (+100 € fee).

### ☒ 1499,- EURO PARTICIPANT TICKET [standard price]

Regular participant ticket includes entrance for both conference days of PASSIVE SAFETY 2024 and the evening event [inclusive lectures, conference catering, conference proceedings (value of the printed book: 280 EURO), VAT].

**ALL PARTICIPANT FEES have to be paid via bank transfer or via credit card (using extra payment service) before 14<sup>th</sup> of March 2024 to avoid an additional fee of 100 EURO because of a delayed payment handling.**

### REDUCED FEE / MEMBER TICKET / VIP TICKET \*

☐ 1299 EURO\* Reduced fee ticket for corporate members of BAHNVERBAND e.V.

☐ 1349 EURO\* Reduced fee ticket for personal members of BAHNVERBAND e.V.

☐ 1249 EURO\* Reduced fee ticket for co-speaker, co-author or VIP-guests of the sponsoring partners

\* Reduced fee has to be paid before 29<sup>th</sup> of February 2024 (in case of delay the REGULAR PRICE has to be paid on site)

➔ Preferred payment method: ☐ Bank Transfer ☐ Credit Card (plus 3 % € extra payment service fee for external service)

➔ SPONSORING-PACKAGES: ☐ Bronze: 500 €; ☐ Silver: 1500 €; ☐ Gold-Sponsor: 3000 €; ☐ Platin (+Plus)

>>> Date / Signature: ☒ \_\_\_\_\_ <<<

**Payment Conditions: Advance Payment:** Please notice that your personal check-in-card will be activated after the payment process is finished. In case of delayed or incomplete payment the regular registration fee plus an extra handling fee of 100 € will be charged when paying cash on site. Complete fee has to be paid before entering the conference rooms. Notice the deadline for early bird payment.

**Cancellation conditions:** Regular cancellation is possible only **4 weeks before the conference begins**. Cancellation fee: 150 €. In order to avoid any cancellation fees, we recommend to nominate a substitute from your company - **completely free of charge!**

#### Do you have any questions? ➔ PLEASE CONTACT THE ORGANISER:

>>> Managing Director: Mr. Schulz (CEO) - phone: +49(0)30 81898731 - cell phone: +49(0)17670094803

>>> Participant registration (Ms. Heyer): +49(0)30 39720172 - Payment and accounting department: +49(0)30 39720170

>>> E-mail: [tagung@bahnverband.info](mailto:tagung@bahnverband.info) or [event@ifv-bahntechnik.de](mailto:event@ifv-bahntechnik.de)

This is the conference brochure version V4: 29<sup>th</sup> of February 2024 - The programme may be subject to alterations! - For updates, please visit >>> [www.bahnverband.info/passive-safety](http://www.bahnverband.info/passive-safety)

**DEADLINE FOR PARTICIPANT APPLICATION: 14<sup>th</sup> of March 2024**