

Thursday 12 September

Rail and road bridges

Chairperson: Richard Stroetmann, Pavel Ryjáček

HALL: SUN I. + II.

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| 09:00 – 09:10 | Opening speech | 10 min. |
| 09:10 – 09:50 | KEY SPEAKER: Latest developments in long span bridges
<i>Henrik Polk, Technical Director for Design of Major Steel Bridges, Bridges International, COWI A/S</i> | 40 min. |
| 09:50 – 10:30 | KEY SPEAKER: Rhine Bridge Leverkusen Design and Construction

<i>ppa. Dipl.-Ing. Martin Romberg, PE</i> | 40 min. |
| 10:30 - 11:00 | <i>Coffee break</i> | |

Rail and road bridges

Chairperson: Mike Tibolt, Patrick Nosbusch

HALL: SUN II.

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| 11:00 – 11:15 | OIA14 – BOWSTRING OF THE NEW RAILWAY LINE LUXEMBOURG-BETTEMBOURG – CONSTRUCTION AND SPECIAL DESIGN CHALLENGES FOR HANGERS
<i>Patrick Nosbusch; InCA Ingénieurs Conseils Associés, Structural Engineering Department, Julien Depasse, InCA Ingénieurs Conseils Associés, Communication</i> | 15 min. |
| 11:15 – 11:30 | Railway bridge “Under Vyšehrad” in Prague, preparation of reconstruction
<i>Jiří Krouský; Správa železnic, s. o.</i> | 15 min. |
| 11:30 – 11:45 | Design and assembly of a new extradosed bridge in Nuremberg
<i>Thomas Klähne; KLÄHNE BUNG Beratende Ingenieure im Bauwesen GmbH, Mike Owusu-Yeboah; KLÄHNE BUNG Beratende Ingenieure im Bauwesen GmbH, Matthias Weißbach; Bung Ingenieure AG</i> | 15 min. |
| 11:45 – 12:00 | Steel solutions for a sustainable bridge infrastructure of today and tomorrow
<i>Mike Tibolt; ArcelorMittal Belval and Differdange, Steligence, Wojciech Ochojski; ArcelorMittal Europe, Steligence</i> | 15 min. |
| 12:00 – 12:15 | Modernization of Railway Track Pardubice – Stéblová: New steel bridge over Labe river | 15 min. |

Jan Mitlöhner; Skanska a.s.

12:15 – 12:30 **Preliminary design of a viaduct on new High-speed line RS 2 VRT Jižní Morava** **15 min.**

Samuel Franko, Martin Hukel

HALL: SUN I.

Research:

Chairperson: Rudolf Aroch, Miroslav Vacek

11:00 – 11:15 **More durable modular expansion joint constructions for road bridges** **15 min.**

Dieter Ungermann; TU Dortmund University Faculty of Architecture and Civil Engineering, Chair of Steel Construction, Bettina Brune; TU Dortmund University Faculty of Architecture and Civil Engineering, Chair of Steel Construction, Michael Diener; TU Dortmund University Faculty of Architecture and Civil Engineering, Chair of Steel Construction

11:15 – 11:30 **Prefabricated Composite Dowels Girders for Small Bridges-Structural Design and Efficiency Evaluation** **15 min.**

Zhihua Xiong; Northwest A&F University, Civil Engineering; RWTH Aachen University, Institute of Steel Construction Jun Li; CCC First Highway Consultants Ltd. Pan, Zhenhua; Northwest A&F University, Civil Engineering, Litao Cheng; CCC First Highway Consultants Ltd., Hongyu Liu; Northwest A&F University, Civil Engineering, Kevin Wolters; RWTH Aachen University, Institute of Steel Construction, Markus Feldmann; RWTH Aachen University, Institute of Steel Construction

11:30 – 11:45 **Development of a lamella-model to evaluate stresses caused by hot asphalt installation**

15 min.

Damian Händeler; RWTH Aachen University, Institute of Steel Construction Geßler, Achim; RWTH Aachen Fakultät für Bauingenieurwesen, Institut für Stahlbau Kevin Wolters; RWTH Aachen University, Institute of Steel Construction, Markus Feldmann; RWTH Aachen University, Institute of Steel Construction

11:45 – 12:00 **Design of the cross-section of a steel composite bridge taking into account the buckling check according to EN 1993-1-5** **15 min.**

Joseph Ndogmo; Technical University of Munich, Chair of Metal Structures, Martin Mensinger; Technical University of Munich, chair of metal structures

12:00 – 12:15 **Experimental and theoretical evaluation of axial forces in short steel ropes** **15 min.**

Rudolf Aroch; Slovak University of Technology in Bratislava, Steel and Timber Structures, Michal Venglar; Slovak University of Technology in Bratislava, Structural Mechanics, Tomas Klas; Slovak University of Technology in Bratislava, Steel and Timber Structures, Michal Kovac; Slovak University of Technology in Bratislava, Steel and Timber Structures

12:15 – 12:30 **Influence of Distance from Roads on Corrosion Loss in Weathering Steel Bridges** **15 min.**

Miroslav Vacek; VSB–Technical University of Ostrava, Faculty of Civil Engineering, Vít Křivý; VSB–Technical University of Ostrava, Faculty of Civil Engineering, Monika Martáková; VSB–Technical University of Ostrava, Faculty of Civil Engineering Kateřina Kreislová; SVÚOM s.r.o, Markéta Vlachová; SVÚOM s.r.o

12:30 – 13:30 **LUNCH** **60 min.**

Footbridges

Chairperson: Sascha Grubmüller, Konrad Freymann

HALL: SUN II.

13:30 – 13:45 **The new pedestrian footbridge of the Luxembourg train Station** **15 min.**

Thomas Borboux; Patrick Nosbusch; Julien Depasse

13:45 – 14:00 **The new bridge “Lahnsteg Nauheim”, Wetzlar: slender, elegant, parametrically designed**

15 min.

Roman Gatsko; Milton Mendez

14:00 – 14:15 **Sprung über die Emscher** **15 min.**

Sascha Grubmüller; Günther, Eitelberger, Johannes, Jagsch, Valentin

14:15 – 14:30 **White City pedestrian bridge – structural design of the cable-stayed future landmark**

15 min.

Konrad Freymann

14:30 - 15:00 *Coffee break*

Research

Chairperson: Radim Nečas, Vincent Kvočák

HALL: SUN I.

13:30 – 13:45 **Parametric analysis of innovative corrugated profile of soil-steel composite bridge** **15 min.**

Nerijus Bareikis

13:45 – 14:00 **Tuned mass dampers – evaluation of the effect on two real footbridges** **15 min.**

Radim Nečas; Jiří Kučera; Jan Kolářček; Kristína Bezručová

14:00 – 14:15 **Comparison of Durability of Composite-Based Shear connectors** **15 min.**

Michala Weissová; Patricia Vanova; Vincent Kvočák; Daniel Dubecký

14:15 – 14:30 **Dynamic behaviour of railway bridges – an overview of damping** **15 min.**

Pavel Ryjáček, Vojta Dynybyl, Michal Polák, Jiří Litoš

14:30 - 15:00 *Coffee break*

HALL: SUN I. + II.

Chairperson: Richard Stroetmann, Pavel Ryjáček

15:00 – 15:40 **KEY SPEAKER: Chemnitz Viaduct – Technical Rehabilitation and Upgrading of a Monument** **40 min.**

Richard Stroetmann

16:00 – 17:00 **The European Steel Bridge Awards** **60 min.**

19:00 – 23:00 **Gala dinner**

Friday 13 September

Special session: Road and pedestrian bridges – challenging bridges in the heart of Europe

Chairperson: Marek Foglar, Jiří Stráský

HALL: SUN II.

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| 09:00 – 09:30 | Sky Bridge 721 World's longest suspension footbridge | 15 min. |
| | <i>Václav Röder</i> | |
| 09:30 – 09:45 | Conversion of historical stone bridge to lifting bridge in the Hořín lock chambre | 15 min. |
| | <i>Jan Blažek; Radek Navrátil</i> | |
| 09:45 – 10:00 | Experiences from launching the bridge over Gottleuba-valley (Gottleubatalbrücke) | 15 min. |
| | <i>Marek Foglar</i> | |
| 10:00 – 10:15 | Pedestrian bridge over the River Elbe in Hradec Králové | 15 min. |
| | <i>Petr Harazim; Lukáš Vráblík; Libor Kábrt; Gabriela Elichová; Martin Elich</i> | |
| 10:15 – 10:30 | Steel Arch Structures with Prestressed Concrete Deck | 15 min. |
| | <i>prof. Ing. Jiří Stráský, DSc., Stráský, Hustý a partneři s.r.o.</i> | |
| 10:30 - 11:00 | <i>Coffee break</i> | |

Research II.

Chairperson: Michael Volz, Jaroslav Odrobiňák

HALL: SUN I.

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|---------------|---|----------------|
| 09:00 – 09:15 | Fatigue strength of repair-welded headed studs | 15 min. |
| | <i>Michael Volz</i> | |

09:15 – 09:30 **Remaining Fatigue Strength of an Orthotropic Steel Deck with Respect to a Repair Method by Cold Joining Techniques** **15 min.**

Florian Kalkowsky; Markus Schröder; Christoph Blunk; Ralf Glienke; Jörg Alex; Wilko Flügge

09:30 – 09:45 **INCREASING FATIGUE LIFE OF NEW WELDED AND REPAIRED JOINTS BY HFMI TREATMENT**

15 min.

Jakub Štěpán; Pavel Ryjáček

09:45 – 10:00 **Material selection for railroad bridge bearings to avoid brittle fracture** **15 min.**

Natalie Hoyer

10:00 – 10:15 **Diagnostics of prestressed ropes after multiannual operation – Bridge SNP Bratislava**

15 min.

Vladimir Chmelko; Tomáš Koščo; Matúš Margetin

10:15 – 10:30 **Analysis of bow-string arches using geometric data from 3D scanning** **15 min.**

Jaroslav Odrobiňák; Matúš Farbák; Jakub Chromčák; Jozef Gocál

10:30 - 11:00 *Coffee break*

Road and footbridges

Chairperson: Pavel Ryjáček

HALL: SUN II.

11:00 – 11:15 **New Pooley Bridge – The UK's first stainless-steel road bridge** **15 min.**

Haroon Ashraf; Tomasz Krok

11:15 – 11:30 **Advantages of using thermomechanically rolled structural steels for bridge construction**

15 min.

Lisa Peter; Tobias Lehnert; Jessica Gola; Cécile Merlin

11:30 – 11:45 **'Robinson' Pedestrian Bridge in Budapest, Hungary** **15 min.**

Gábor Pál; András Kemenczés; László Hunyadi; Mihály Szabados

- 11:45 – 12:00 **Cable-stayed footbridge in Lover Vítkovice Area-DOV** **15 min.**
Jakub Janečko; Vladimír Janata;
- 12:00 – 12:15 **Shui Su Ravine Bridge Design and its Steel Joint Fatigue Performance Evaluation** **15 min.**
Zihua Xiong; Xin Yang; Xuyao Liu; Jiaqi Li;
- 12:15 – 12:30 **A Comprehensive Exploration of Glass Reinforced Plastic (GRP) Panels** **15 min.**
Michael Train; Pavel Bulejko
- Research II.**
Chairperson: Miroslav Sýkora, Alexander Jiponov
HALL: SUN I.
- 11:00 – 11:15 **Cable Force Adjustments of an Arch Steel Pedestrian Bridge** **15 min.**
Alp Caner; Martine Klein
- 11:15 – 11:30 **Aerodynamic Performance-Based Design for Steel Bridges and Embodied Carbon Awareness** **15 min.**
Emanuele Mattiello
- 11:30 – 11:45 **Reliability-based Allowances of Corrosion Losses for Weathering Steel Bridges** **15 min.**
Miroslav Sykora; Kateřina Kreislová; Jana Marková
- 11:45 – 12:00 **Failure mode and load prediction of steel bridge girders through 3D laser scanning and machine learning methods** **15 min.**
Georgios Tzortzinis; Jan Wittig; Angelos Filippatos; Maik Gude; Aidan Provost; Chengbo Ai; Simos Gerasimidis
- 12:00 – 12:15 **Investigations On the Effective Width of Wide Flange Steel Girders** **15 min.**
Alexander Jiponov; Encho Dulevski; Vasil Nikolov
- 12:15 – 12:30 **Design and analysis of curved steel bridges using 3D shell modelling** **15 min.**
Paul Biju-Duval

HALL: SUN II.

12:45 – 12:50 **Official closure of Steel bridges 2024** **5 min.**

12:50 – 14:00 **Lunch**