

Thursday 12 September

Rail and road bridges

Chairperson:

HALL: SUN I. + II.

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| 09:00 – 09:10 | Opening speach | 10 min. |
| 09:10 – 09:50 | 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 | Rhine Bridge Leverkusen Design and Construction
<i>ppa. Dipl.-Ing. Martin Romberg, PE</i> | 40 min. |

Rail and road bridges

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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
<i>Jan Mitlöhner; Skanska a.s.</i> | 15 min. |
| 12:15 – 12:30 | Preliminary design of a viaduct on new High-speed line RS 2 VRT Jižní Morava
<i>Samuel Franko, Martin Hukel</i> | 15 min. |

HALL: SUN I.

Research

Chairperson:

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| 11:00 – 11:15 | More durable modular expansion joint constructions for road bridges
<i>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</i> | 15 min. |
| 11:15 – 11:30 | Prefabricated Composite Dowels Girders for Small Bridges-Structural Design and Efficiency Evaluation | 15 min. |

Zhijia 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:

HALL: SUN II.

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

15 min.

Borboux, Thomas; Nosbusch, Patrick; Depasse, Julien;

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

15 min.

Gatsko, Roman; Mendez, Milton

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

15 min.

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

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

15 min.

Freyman, Konrad

Research

Chairperson:

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- 13:30 – 13:45 **Parametric analysis of innovative corrugated profile of soil-steel composite bridge** **15 min.**
Bareikis, Nerijus
- 13:45 – 14:00 **Tuned mass dampers – evaluation of the effect on two real footbridges** **15 min.**
Nečas, Radim; Kučera, Jiří; Koláček, Jan; Bezručová, Kristína
- 14:00 – 14:15 **Comparison of Durability of Composite-Based Shear connectors** **15 min.**
Weissová, Michala; Vanova, Patricia; Kvočák, Vincent; Dubecký, Daniel
- 14:15 – 14:30 **Dynamic behaviour of railway bridges – an overview of damping** **15 min.**
Ryjáček, Pavel, Dynybyl, Vojta, Polák, Michal, Litoš, Jiří
- HALL: SUN I. + II.**
- 15:00 – 15:40 **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:

HALL: SUN II.

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

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

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|---------------|--|----------------|
| 09:00 – 09:15 | Fatigue strength of repair-welded headed studs
<i>Volz, Michael</i> | 15 min. |
| 09:15 – 09:30 | Remaining Fatigue Strength of an Orthotropic Steel Deck with Respect to a Repair Method by Cold Joining Techniques
<i>Kalkowsky, Florian; Schröder, Markus; Blunk, Christoph; Glienke, Ralf; Alex, Jörg; Flügge, Wilko</i> | 15 min. |
| 09:30 – 09:45 | Application of HFMI treatment to new and repaired welded joints
<i>Štěpán, Jakub; Ryjáček, Pavel</i> | 15 min. |
| 09:45 – 10:00 | Material selection for railroad bridge bearings to avoid brittle fracture
<i>Hoyer, Natalie</i> | 15 min. |
| 10:00 – 10:15 | Diagnostics of prestressed ropes after multiannual operation – Bridge SNP Bratislava
<i>Chmelko, Vladimir; Koščo, Tomáš; Margetin, Matúš</i> | 15 min. |
| 10:15 – 10:30 | Analysis of bow-string arches using geometric data from 3D scanning
<i>Odrobiňák, Jaroslav; Farbák, Matúš; Chromčák, Jakub; Gocál, Jozef</i> | 15 min. |

Road and footbridges

Chairperson:

HALL: SUN II.

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|---------------|--|----------------|
| 11:00 – 11:15 | New Pooley Bridge – The UK’s first stainless-steel road bridge
<i>Ashraf, Haroon; Krok, Tomasz</i> | 15 min. |
| 11:15 – 11:30 | Advantages of using thermomechanically rolled structural steels for bridge construction | |

	<i>Peter, Lisa; Lehnert, Tobias; Gola, Jessica; Merlin, Cécile</i>	15 min.
11:30 – 11:45	'Robinson' Pedestrian Bridge in Budapest, Hungary <i>Pál, Gábor; Kemenczés, András; Hunyadi, László; Szabados, Mihály</i>	15 min.
11:45 – 12:00	Cable-stayed footbridge in Ostrava, DOV <i>Janečko, Jakub, Janata, Vladimír;</i>	15 min.
12:00 – 12:15	Shui Su Ravine Bridge Design and its Steel Joint Fatigue Performance Evaluation 15 min. <i>Xiong, Zhihua; Yang, Xin; Liu, Xuyao; Li, Jiaqi;</i>	
12:15 – 12:30	A Comprehensive Exploration of Glass Reinforced Plastic (GRP) Panels 15 min. <i>Train, Michael; Bulejko, Pavel</i>	

Road and footbridges

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11:00 – 11:15	Cable Force Adjustments of an Arch Steel Pedestrian Bridge 15 min. <i>Caner, Alp; kurtuluş, alkım yaşar; çınar, melike</i>	
11:15 – 11:30	Aerodynamic Performance-Based Design for Steel Bridges and Embodied Carbon Awareness 15 min. <i>Mattiello, Emanuele</i>	
11:30 – 11:45	Reliability-based Allowances of Corrosion Losses for Weathering Steel Bridges 15 min. <i>Sykora, Miroslav; Kreislová, Kateřina; Marková, Jana</i>	
11:45 – 12:00	Failure mode and load prediction of steel bridge girders through 3D laser scanning and machine learning methods 15 min. <i>Tzortzinis, Georgios; Wittig, Jan; Filippatos, Angelos; Gude, Maik; Provost, Aidan; Ai, Chengbo; Gerasimidis, Simos</i>	
12:00 – 12:15	Investigations On the Effective Width of Wide Flange Steel Girders 15 min. <i>Jiponov, Alexander; Dulevski, Encho; Nikolov, Vasil</i>	
12:15 – 12:30	Design and analysis of curved steel bridges using 3D shell modelling 15 min. <i>Biju-Duval, Paul</i>	
12:30 – 12:45	Calculation and behavior of pre-stressed cable-stayed steel bridge with intersecting cable stays 15 min. <i>Dabrila, Povilas, Juozapaitis, Algirdas</i>	
12:45 – 12:50	Official closure of Steel bridges 2024 5 min.	
12:50 – 14:00	Lunch	