

# PROGRAM SCHEDULE

TUESDAY, SEPTEMBER 26<sup>TH</sup>, 2023

## TÜWI-Hall – Opening Session (08:30-09:00)

## TÜWI-Hall – Keynote Lectures (09:00-10:30)

Chair: **Rade Hajdin**  
University of Belgrade, Serbia  
Co-Chair: **Joan R. Casas**  
Technical University of Catalonia, Spain



Digitalisation in Structural Engineering  
**Pürgstaller, Andreas**



**Vötter, Valentina**  
Bergmeister Ingenieure GmbH  
Munich, Germany



Quality control in introducing the new UHPFRC Technology  
**Brühwiler, Eugen**  
Swiss Federal Institute of Technology  
Lausanne (EPFL)  
Lausanne, Switzerland

### Coffee break (10:30-10:50)

## Parallel Technical Sessions (10:50-12:45)

ILWA1 • TuM • MS14 Structural reliability assessment of existing post-tensioned concrete bridges  
ILWA2 • TuM • MS1 Information value-driven infrastructure management: Challenges and opportunities  
ILWA3 • TuM • MS9 Bridges' life-cycle risk analysis and management  
ILWA4 • TuM • GS General Session

### Lunch break (12:45-14:00)

## Parallel Technical Sessions (14:00-16:00)

ILWA1 • TuA • MS14 Structural reliability assessment of existing post-tensioned concrete bridges  
ILWA2 • TuA • MS5 Railway Bridges  
ILWA3 • TuA • MS9 Bridges' life-cycle risk analysis and management  
ILWA4 • TuA • GS General Session

### Coffee break (16:00-16:15)

## Parallel Technical Sessions (16:15-18:15)

ILWA1 • TuE • MS15 Assessment of the condition state of external pre-stressed cable in concrete bridges  
ILWA2 • TuE • MS7 Digital Bridge Monitoring: Integration of NDTs and Visualization Tools for Structural and Durability Assessment  
ILWA3 • TuE • MS6 Railway Bridges and Infrastructure Monitoring  
ILWA4 • TuE • GS General Session

Tuesday, September 26<sup>th</sup>, 2023 @ 10:50 – 12:45 (TuM)

ILWA1	
<b>MS14</b>	<b>Structural reliability assessment of existing post-tensioned concrete bridges</b>
Chairs: Micozzi, Fabio Gioiella, Laura	
cepa.202200024	<b>Strength reduction curves for corroded seven-wire strands</b>
Marra, Matteo*; Palermo, Michele; Trombetti, Tomaso; Silvestri, Stefano	
cepa.202200026	<b>Assessment of bridge post-tensioning systems using non-destructive (ND) inspection methods</b>
Quaglini, Virginia; Pettorosso, Carlo*; Cattaneo, Sara; Rossi, Dalia	
cepa.202200088	<b>Investigation, assessment, strategy for deck widening of existing HWY PT bridges</b>
Zoratto, Nadia*; Giovenale, Paolo; Buttarazzi, Francesca; Di Lorenzo, Alessandra	
cepa.202200150	<b>Nonlinear analysis procedures for safety assessment of existing RC bridges under traffic loads</b>
De Matteis, Gianfranco*; Carbonari, Sandro; Chisari, Corrado; D'Amato, Michele; Mattei, Francesca; Zizi, Mattia; Braga, Franco; Caprili, Silvia; Dall'Asta, Andrea; Gara, Fabrizio; Salvatore, Walter	
cepa.202200153	<b>A case study for the reliability evaluation of an existing prestressed bridge according to current standard</b>
Poeta, Alberto*; Micozzi, Fabio; Gioiella, Laura; Dall'Asta, Andrea	

ILWA2	
<b>MS1</b>	<b>Information value-driven infrastructure management: challenges and opportunities</b>
Chairs: Giordano, Pier Francesco Teixeira, Rui	
cepa.202200013	<b>A common data environment for value-driven data management in German road construction</b>
Matthei, Jonathan*; Götzhäuser, Peter; Klemt-Albert, Katharina; Schulze, Christian; Moharekpour, Milad; Plattenteich, Andreas	
cepa.202200012	<b>Data driven planning and approval processes of public road construction projects</b>
Matthei, Jonathan*; Klemt-Albert, Katharina	

cepa.202200028	<b>Remedial measures works programme for Slovenian motorway infrastructure</b>
Kušar, Matej*; Jurgele, Mitja	
cepa.202200140	<b>Initiation and propagation of failures in steel truss bridges</b>
López, Santiago*; Makoond, Nirvan; Sánchez-Rodríguez, Ana; Adam, José M.; Riveiro, Belén	
cepa.202200142	<b>Repair and retrofit of bridge structural elements: new cementitious materials</b>
Ramaswamy, Ananth*	
cepa.202200352	<b>Identification of influencing factors on bridge damages using Bayesian network</b>
Miyakawa, Teruyuki*; Nakamura, Shozo; Nishikawa, Takafumi	

ILWA3	
<b>MS9</b>	<b>Bridges' Life-Cycle Risk Analysis and Management</b>
Chairs: Uva, Giuseppina Venanzi, Ilaria	
cepa.202200025	<b>A new methodology for the prioritization of visual inspections of bridges and viaducts</b>
Meoni, Andrea*; García-Macías, Enrique; Venanzi, Ilaria; Ubertini, Filippo	
cepa.202200077	<b>Vulnerability to traffic loads of typical Italian bridges in relation to the evolution of the code framework</b>
Bozza, Stefano*; Fasan, Marco; Noè, Salvatore	

cepa.202200101	<b>Multi-risk assessment for bridges: the application of the Italian Guidelines</b>
Di Sano, Silvia*; Costa, Giancarlo; Giordano, Pier Francesco; Pregnolato, Maria; Limongelli, Maria Pina	
cepa.202200119	<b>A LCCA framework for the management of bridges based on data fusion from visual inspections and SHM systems</b>
Ierimonti, Laura*; Mariani, Francesco; Venanzi, Ilaria; Ubertini, Filippo	
cepa.202200134	<b>Multi source interferometry synthetic aperture radar for monitoring existing bridges: a case study</b>
Calò, Mirko; Ruggieri, Sergio*; Nettis, Andrea; Uva, Giuseppina Segio; Nettis, Andrea; Uva, Giuseppina	

ILWA4	
<b>GS</b>	<b>General Session</b>
Chairs: Strauss, Alfred Apostoldi, Eftychia	
cepa.202200016	<b>Monitoring the fatigue-induced strain evolution of concrete bridges using fiber optic sensors</b>
Becks, Henrik*; Brockmann, Daniel; Hegger, Josef; Classen, Martin	
cepa.202200042	<b>Digital life-cycle and asset-management for steel bridges</b>
Geßler, Achim*; Hoffmeister, Benno; Geers, Thorben	
cepa.202200055	<b>Using distributed fibreoptic sensing to monitor repaired structures reinforced with steel-patches</b>
Grefe, Hinrich*; Stammen, Elisabeth; Dilger, Klaus; Baudone, Tommaso; Arutyunyan, Garnick; Baitinger, Mascha	
cepa.202200056	<b>Life-cycle performance of noise barriers focusing on installation conditions of fasteners</b>
Granzner, Maximilian*; Strauss, Alfred; Reiterer, Michael; Kari, Hannes	
cepa.202200094	<b>Optimization of extradosed bridge and analysis of parameters' sensitiveness as a case study on Abay Bridge</b>
Lamesgin, Abeba*; Golla, Alemayehu; Rasool, Ghulam; Jemanenih, Wubishet	
cepa.202200123	<b>Data based reliability and risk based assessment for service life extension of structures</b>
Strauss, Alfred*; Zimmermann, Thomas; Bergmeister, Konrad	

<b>ILWA1</b>	
<b>MS14</b>	<b>Structural reliability assessment of existing post-tensioned concrete bridges</b>
Chairs: Meoni, Andrea Apostolίδi, Eftychia	
cepa.202200162 <b>SAFOTEB project: towards new approaches for the reliability assessment of existing prestressed bridge</b>	
Micozzi, Fabio*; Poeta, Alberto; Gioiella, Laura; Natali, Agnese; Celati, Simone; Mazzatura, Isabella; Salvatore, Walter; Meoni, Andrea; Ierimonti, Laura; Venanzi, Ilaria; Ubertini, Filippo; Ranaldo, Antonella; D'Amato, Michele; Cattaneo, Sara; Peltorosso, Carlo; Quaglino, Virginio; Rossi, Dalila; Tilton, Michele; Dall'Asta, Andrea	
cepa.202200308 <b>Analysis of the thermal effects on the performance and reliability of post-tensioned integral abutment bridges</b>	
Aloisio, Angelo*; Contento, Alessandro; Xue, Junqing; Quaranta, Giuseppe; Briseghella, Bruno; Gardoni, Paolo	
cepa.202200686 <b>Evaluation of the pull-out test to determine the residual prestressing in concrete bridges.</b>	
Pannuzzo, Paola*; Tilton, Michele; Furlan, Matteo; Tecchio, Giovanni	
cepa.202200347 <b>Uncertainty of the crack width model based on fracture of concrete</b>	
Cervenka, Vladimír*; Rimkus, Arvdas; Gribniak, Viktor; Cervenka, Jan	
cepa.202200363 <b>Life cycle costs and asset management for protective structures against natural hazards</b>	
Hoffmann, Markus; Donev, Valentin; Brauner, Michael	
cepa.202200485 <b>Buckling analysis of steel members by extension of EC-3 methods applied to steel plates in bridge girders under patch Loading</b>	
Micelli, Francesco*; Maci, Lorenzo; De Vitis, Fabiano Alex	
cepa.202200482 <b>Influence of strengthening interventions on the structural performance of a Maillart-type arch bridge: the case of "Ciolo Bridge" in the South of Italy</b>	
Micelli, Francesco*; Perrone, Daniele; Aiello, Maria Antonietta	

<b>ILWA2</b>	
<b>MS5</b>	<b>Railway Bridges</b>
Chairs: De Backer, Hans Carpintero, Ismael	

cepa.202200017 <b>Structural collapse assessment of the access bridge to hydroelectric plant "Pacífico Mascarenhas"</b>
Carvalho, Hermes*; Gomes Jr., José; Montenegro, Pedro; Correia, José; Vilela, Paula; Bittencourt, Túlio; Oliveira, Luiza
cepa.202200032 <b>Optimisation of cantilever based energy harvester design for railway bridges</b>
Cámara-Molina, Javier C.*; Romero, Antonio; Galvín, Pedro; Moliner, Emma; Martínez-Rodrigo, María Dolores
cepa.202200049 <b>Does vehicle-bridge interaction resemble the effect of tuned-mass dampers on bridges during earthquakes?</b>
Homaei, Hossein*; Dimitrakopoulos, Elias G.
cepa.202200066 <b>Load-carrying capacity of Vierendeel bridges in Mechelen</b>
Van Bogaert, Philippe; De Pauw, Bart; De Backer, Hans*
cepa.202200078 <b>Development of a new high-speed train load model for dynamic calculation of railway bridges</b>
Reiterer, Michael*; Kwapisz, Maciej; Firus, Andrei; Rupp, Maximilian; Lombaert, Geert
cepa.202200165 <b>Experimental analysis of longitudinal and lateral track-bridge interaction of the ballasted track in railway bridges</b>
Stollwitzer, Andreas*; Bettinelli, Lara; Fink, Josef
cepa.202200330 <b>Structural assessment of an historical steel railway bridge in the north of Spain</b>
Carpintero, Ismael*; Rueda, Jorge

<b>ILWA3</b>	
<b>MS9</b>	<b>Bridges' Life-Cycle Risk Analysis and Management</b>
Chairs: Venanzi, Ilaria Uva, Giuseppina	
cepa.202200136 <b>Fragility analysis of prestressed concrete girder bridges to traffic loads considering tendon corrosion</b>	
Nettis, Alessandro*; Nettis, Andrea; Ruggieri, Sergio; Uva, Giuseppina	
cepa.202200147 <b>The holistic multi-level approach of the Italian guidelines applied to the bridges of Caserta</b>	
Bencivenga, Pasquale*; Zizi, Mattia; Palmieri, Gerardo; De Matteis, Gianfranco	
cepa.202200149 <b>Risk assessment of a masonry arch bridge: from on-site inspections to continuous monitoring</b>	
Borlenghi, Paolo*; Gentile, Carmelo; D'angelo, Manuel; Ballo, Francesco	

<b>ILWA4</b>	
<b>GS</b>	<b>General Session</b>
Chairs: Casas, Joan R.	
cepa.202200138 <b>Recent failures of external prestressing grouted tendons: when the ducts take on water...</b>	
Germain, Didier*; Labourie, Laurent; Vaurigaud, Bastien; Gailliet, Laurent; Van Schoors, Laetitia; Houel, Adrien; Godart, Bruno	
cepa.202200152 <b>Experimental study on the failure process of large shear key joints based on NDT methods</b>	
Li, Shengtao; Casas, Joan R.*; Chen, Xudong; Sun, Yangyang; Liu, Duo	
cepa.202200154 <b>Dynamic identification and vibration serviceability assessment of a wooden cable-stayed footbridge</b>	
Nicoletti, Vanni*; Tentella, Luca; Martini, Riccardo; Quarochioni, Simone; Carbonari, Sandro; Gara, Fabrizio	
cepa.202200155 <b>Operational modal analysis for supporting the retrofit design of bridges</b>	
Nicoletti, Vanni*; Martini, Riccardo; Amico, Lorenzo; Carbonari, Sandro; Gara, Fabrizio	
cepa.202200171 <b>Digitalization of bridge inventory via automated analysis of point clouds for generation of BIM models</b>	
Hajdin, Rade*; Richter, Rico; Rakic, Lazar; Diederich, Holger; Hildebrand, Justus; Schulz, Sebastian; Dollner, Jürgen; Bednorz, Jennifer	
cepa.202200173 <b>Analysis of the impact of the ribbon track on unconventional fixing on a steel multi-span bridge</b>	
Odrobňák, Jaroslav*; Farbák, Matúš; Prokop, Jozef; Vičan, Josef; Vavák, Branislav	
cepa.202200599 <b>Fragility analysis of slopes exposed to seismic hazard employing surrogate modeling techniques</b>	
Cabanzo, Carlos; Tinoco, Joaquim; Sousa, Hélder S.; Matos, José C.*	

cepa.202200541 <b>Flood vulnerability assessment: an effective tool to evaluate the lifecycle risk analysis of bridges.</b>
Kosić, Mirko*; Anžlin, Andrej; Bau, Valentina
cepa.202200754 <b>How to deal with uncertainties in the assessment of the global warming potential of bridges</b>
Boros, Vazul*
cepa.202200845 <b>Spanish guides and code specifications on concrete bridges inspection and maintenance: an overview</b>
Marti-Vargas, José R.*; Castro-Bugallo, Carmen; Navarro-Gregori, Juan; Mateu-Sánchez, Juan A.

<b>ILWA4</b>	
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<b>ILWA1</b>	
<b>MS15</b>	<b>Assessment of the condition state of external pre-stressed cable in concrete bridges</b>
Chairs: Anžlin, Andrej Weiher, Hermann	
cepa.202200051 <b>Detection of wire breaks in external pre-stressed cable free length and junction using a magnetic rope testing device</b>	
Vaurigaus, Bastien*; Germain, Didier; Chemineau, Hélène; Cherrier, Jean-François; Piednoir, Remi; Guyot, Fabien	
cepa.202200127 <b>Experiences in assessment, replacement and repair of external tendons</b>	
Weiher, Hermann*	
cepa.202200164 <b>Investigation of the unusual deformations of external tendons in concrete highway bridges</b>	
Švraka, Ratko*; Bevc, Lojze; Vezočnik, Rok; Hekič, Doron; Anžlin, Andrej	
cepa.202200170 <b>Strengthening of precast segmental bridge built in 1960s using external tendons</b>	
Moravcik, Martin*; Bujnakova, Petra; Kralovanc, Jakub	
cepa.202200207 <b>Extending the life of bridges with external tendons</b>	
Ramírez, Guillermo*; Ševčík, Petr	
cepa.202200211 <b>The lifetime cycle of external tendons: From installation and monitoring to controlled deconstruction and recycling</b>	
Schmitt, Andreas*; Buschlinger, Michael; Heubel, Thomas	

<b>ILWA2</b>	
<b>MS7</b>	<b>Digital Bridge Monitoring: Integration of NDTs and Visualization Tools for Structural and Durability Assessment</b>
Chairs: Rasol, Mezgeen	
cepa.202200022 <b>Toward a BIM-based procedure for the evaluation of a risk prioritization class of bridge structures</b>	
Casto, Milena*; Perrone, Daniele; Nascimbene, Roberto; Micelli, Francesco; Calvi, Paolo; Aiello, Maria Antonietta	
cepa.202200031 <b>Condition information models in the context of structural health monitoring</b>	
Köhncke, Martin*; Keßler, Sylvia	

cepa.202200043 <b>Inspection and condition assessment of existing overpass in Sofia, Bulgaria</b>
Jiponov, Alexander*
cepa.202200090 <b>Performance-based assessment of a long span bridge</b>
Makhoul, Nisrine*; Schmidt, Franziska
cepa.202200125 <b>Measurements, simulation, analysis and geolocation in a digital twin tool for bridge management</b>
Chacón, Rolando*; Ramonell, Carlos; Posada, Hector; Tomar, Rahul; de la Rosa, Christian Martínez; Stipanovic, Irina
cepa.202200167 <b>Validation of the digital inspection of bridges</b>
Kreslin, Maja*; Triller, Petra; Eržen, Vid; Žnidarič, Aleš; Slokan, Tomaž; Anžlin, Andrej

<b>ILWA3</b>	
<b>MS6</b>	<b>Railway Bridges and Infrastructure Monitoring</b>
Chairs: Hanley, Ciaran	
cepa.202200041 <b>Structural condition classification of railway bridge KW51 before, during, and after retrofitting</b>	
Al-Ghalib, Ali A.*; Mahmoud, Sawсан M.	
cepa.202200091 <b>Incorporating measurement data to improve the fatigue assessment of steel bridges</b>	
Kwapisz, Maciej*; Pissermayr, Sebastian; Lachinger, Stefan	
cepa.202200098 <b>High-speed drive-by monitoring: field testing with an intercity express train (ICE)</b>	
Rupp, Maximilian Michael*; Lorenzen, Steven Robert; Fritzsche, Max Alois; Riedel, Henrik; Kohl, Antonia; Apostolίδi, Eftychia; Schneider, Jens	
cepa.202200144 <b>QUICK-B-WIM: Large scale application of a moving force identification method on a railway bridge</b>	
Riedel, Henrik*; Firus, Andrei; Vospernik, Michael; Apostolίδi, Eftychia; Schneider, Jens	
cepa.202200596 <b>Drive-by frequencies extraction by means of synchrosqueezed wavelet transform</b>	
Benedetti, Lorenzo*; Bernardini, Lorenzo; Argentino, Antonio; Cazzulani, Gabriele	
cepa.202200608 <b>Structural health monitoring of a steel truss railway bridge studying its low frequency response</b>	

Radicioni, Luca*; Bernardini, Lorenzo; Bono, Francesco Morgan; Anghileri, Mattia; Capacci, Luca; Cazzulani, Gabriele; Somaschini, Claudio; Pande, Aniket Ketan; Biondini, Fabio; Cinquemani, Simone; Belloli, Marco
cepa.202300024 <b>Strain-based autoregressive modelling for system identification of railway bridges</b>
Anastasia, Stefano; Marcias, Enrique García; Ubertini, Filippo; Gattulli, Vincenzo; Martínez, Pedro Poveda; Gorriç, Benjamin Torres; Chorro, Salvador Ivorra*

<b>ILWA4</b>	
<b>GS</b>	<b>General Session</b>
Chairs: Matos, José	
cepa.202200174 <b>A framework for management of transportation infrastructure based on key performance indicators</b>	
Tanasić, Nikola*; Blumenfeld, Tim; Hajdin, Rade; Schiffmann, Frank	

cepa.202200176 <b>On mathematical models of degradation processes according to ISO 16204 and fib Model Code</b>
Šomodíková, Martina*; Doležel, Jiří; Lehký, David
cepa.202200178 <b>Inverse analysis and optimization-based model updating for structural damage detection</b>
Lehky, David*; Špíchal, Bohumil; Lamperová, Katarína; Slowik, Ondřej
cepa.202200182 <b>Inspection and maintenance KPIs to support decision making integrated into digital twin tool</b>
Stipanovic, Irina*; Skaric Palic, Sandra; Casas, Joan Ramon; Chacón, Rolando; Ganic, Emir
cepa.202200186 <b>Nonlinear probabilistic structural assessment: findings from Austrian and Czech bridges</b>
Novák, Drahomír*; Strauss, Alfred; Novák, Lukáš; Lehký, David; Šomodíková, Martina; Lipowczan, Martin; Slowik, Ondřej; Doležel, Jiří; Pukl, Radomír; Sattler, Fabian; Apostolίδi, Eftychia
cepa.202200274 <b>A unified concrete damage model for monotonic loading and fatigue loading</b>
Guo, Chenggong*; Li, Jie
cepa.202200981 <b>Model updating of plate composite structure using particle swarm optimization algorithm</b>
Quang, Minh Tran; Bento, Ana Margarida; Ferradosa, Tiago; Sousa, Hélder S.; Duc, Binh Nguyen; Cam, Nhung Nguyen Thi; Matos, José Campos e*

## WEDNESDAY, SEPTEMBER 27<sup>TH</sup>, 2023

### ILWA1 – Panel: Digital Transformation in Sustainability (08:30-10:00)

Moderator: **Casas, Joan R.**  
Technical University of Catalonia, Spain

Co-Moderator: **Stipanović, Irina**  
University of Twente, Netherlands



Circularity in infrastructure management  
**Stipanović, Irina**  
University of Twente  
Twente, Netherlands



**Hajdin, Rade**  
University of Belgrade  
Belgrade, Serbia



**Limongelli, Maria Pina**  
Politecnico di Milano  
Milano, Italy



**Spiezia, Nicolò**  
M3E and KnowCE  
Padova, Italy



**Vorwagner, Alois**  
Austrian Institute of Technology (AIT)  
Austria, Vienna

Coffee break (10:00-10:20)

### Parallel Technical Sessions (10:20-12:15)

ILWA1 • WeM • MS16 Condition monitoring and assessment of degrading reinforced concrete structures

ILWA2 • WeM • MS21 Future-oriented European Standardisation on monitoring, safety assessment and maintenance of transport infrastructure

ILWA3 • WeM • MS2 Advances and applications in remote monitoring of civil infrastructure

ILWA4 • WeM • MS20 Modelling and assessment of infrastructures under multiple hazards

Lunch break (12:15-13:30)

### Parallel Technical Sessions (13:30-15:30)

ILWA1 • WeA • MS16 Condition monitoring and assessment of degrading reinforced concrete structures

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ILWA4 • WeA • MS20 Modelling and assessment of infrastructures under multiple hazards

Coffee break (15:30-15:45)

### Parallel Technical Sessions (15:45-17:30)

ILWA1 • WeE • GS General Session

ILWA2 • WeE • MS21 Future-oriented European Standardisation on monitoring, safety assessment and maintenance of transport infrastructure

ILWA3 • WeE • GS General Session

ILWA4 • WeE • GS General Session

**Gala Dinner** (18:30-22:00) Vienna City Hall  
EuroStruct2023 Awards

## Wednesday, September 27<sup>th</sup>, 2023 @ 10:20 – 12:15 (WeM)

ILWA1	
<b>MS16</b>	Condition monitoring and assessment of degrading reinforced concrete structures
Chairs:	Binder, Fritz Burtscher, Stefan L.
cepa.202200052	Future perspectives of standardization for a safe European transport infrastructure
Binder, Fritz*;	Burtscher, Stefan L.
cepa.202200019	Modernising a monument: The challenges of strengthening and widening a structurally deficient road bridge structure under live traffic
Treacy, Mark*;	Jokisch, Frank; Brühwiler, Eugen
cepa.202200018	Updated load models for short-span road bridges in the range of 2-15 m
Treacy, Mark*;	Brühwiler, Eugen
cepa.202200062	Applications of state of the art NDT techniques in bridge inspections
Rapaport, Guy	
cepa.202200110	Autonomous IOT for condition monitoring, assessment and predictive maintenance - advances
Burtscher, Stefan L.*;	Huber, Peter; Binder, Fritz; Bauer, Hannes
cepa.202200113	Challenges in corrosion surveys on reinforced concrete: practical experiences from more than 20 years
Schneck, Ulrich*	

ILWA2	
<b>MS21</b>	Future-oriented European Standardisation on monitoring, safety assessment and maintenance of transport infrastructure
Chairs:	Bigaj-van Vliet, Agnieszka Strauss, Alfred
cepa.202200202	Barriers and opportunities towards monitoring and asset management of EU transport infrastructure
Scibilla, Elena*;	Hoff, Inge; De Urquía, Miguel A.; Bigaj-van Vliet, Agnieszka
cepa.202200197	Existing standardization on monitoring, safety assessment and maintenance of the bridges and tunnels
Allaix, Diego Lorenzo*;	Bigaj-van Vliet, Agnieszka

cepa.202200203	How to close the gap between applied strategies for infrastructure maintenance planning and the current state of research?
Köhler, Jochen*;	Allaix, Diego Lorenzo; Bigaj-van Vliet, Agnieszka
cepa.202200196	Future perspectives of standardization for a safe European transport infrastructure
Allaix, Diego Lorenzo*;	Bigaj-van Vliet, Agnieszka; Mancini, Giuseppe; Darò, Paola; Strauss, Alfred; Bergmeister, Konrad; Köhler, Jochen
cepa.202200192	Data-informed safety assessment of existing transport infrastructures
Darò, Paola*;	Mancini, Giuseppe; Longo, Monica; Negri, Serena; Bigaj-van Vliet, Agnieszka; Allaix, Diego Lorenzo
cepa.202200266	Guideline on NDT-supported reliability assessment of existing structures – Current developments in Germany
Küttenbaum, Stefan*;	Braml, Thomas; Heinze, Marco; Kainz, Christian; Keuser, Manfred; Lechner, Thomas; Maack, Stefan; Reinke, Klaus-Dieter ; Schulze, Sebastian; Soukup, Alexander; Stettner, Christian; Taffe, Alexander; Wöstmann, Jens
ILWA3	
<b>MS2</b>	Advances and applications in remote monitoring of civil infrastructure
Chairs:	Tonelli, Daniel Giordano, Pier Francesco
cepa.202200096	Remote monitoring of a concrete bridge using PSInSAR
Lasri, Othmane*;	Giordano, Pier Francesco; Limongelli, Maria Pina; Previtali, Mattia
cepa.202200112	Uncertainty quantification of satellite InSAR-monitoring of bridges: a case study
Tonelli, Daniel*;	Valentini, Andrea; Rocca Alfredo, Zorzi, Stefano; Lotti, Alessandro; Zonta, Daniele
cepa.202200214	Structural health monitoring of curved roadway bridges through satellite radar interferometry and collapse simulation
Farneti, Elisabetta*;	Meoni, Andrea; NATALI, Agnese; Celati, Simone; Frascolla, Carmine; Lupi, Maria Cristina; Cavalagli, Nicola; Venanzi, Ilaria; Salvatore, Walter; Ubertini, Filippo

cepa.202200208	MT-InSAR monitoring for tunnel induced settlements in urban areas
Della Ragione, Gianluigi*;	Rocca, Alfredo; Perissin, Daniele; Bilotta, Emilio
cepa.202200329	Steel-concrete composite bridge repair
Vanova, Patricia*;	Dubecky, Daniel; Harabinova, Slavka; Orolin, Peter; Kvocak, Vincent; Lavko, Martin
cepa.202300036	Intumescent fireproof coatings based on zeolite-like cement matrices
Krivenko, Pavel*;	Rudenko, Igor; Konstantynovskiy, Oleksandr

ILWA4	
<b>MS20</b>	Modelling and assessment of infrastructures under multiple hazards
Chairs:	Quaranta, Giuseppe De Martino, Cristoforo
cepa.202200135	Analysis of the joint effects of thermal stresses and corrosion on integral abutment bridges
Contento, Alessandro*;	Aloisio, Angelo; Xue, Junqing; Quaranta, Giuseppe; Briseghella, Bruno; Gardoni, Paolo

cepa.202200166	A proposal for low cost condition assessment method for existing RC bridges
Stochino, Flavio*;	Mistretta, Fusto; Zucca, Marco; Puppio, Mario Lucio
cepa.202200169	Development of corrosion hazard maps for reinforced concrete bridges
Quaranta, Giuseppe*;	Giaccu, Gian Felice; Briseghella, Bruno; Nuti, Camillo
cepa.202200275	Progressive collapse of hangers in steel arch bridges due to blast loading
Tiotsop, Franck Kenneth*;	Maiorana, Emanuele; Poh'sie, Guillaume Hervé
cepa.202200285	Buckling strength of cold-formed stiffened thinwalled steel box bridge piers under cyclic loading
Mamaghani, Iraj H.P.*;	Mwaura, Njiru
cepa.202200340	Seismic Response of RC Bridge considering scour effect: a case study of Kathmandu Valley
Shrestha, Ashish*;	Shrestha, Bipin; Sahani, Kameshwar

## Wednesday, September 27<sup>th</sup>, 2023 @ 13:30 – 15:30 (WeA)

<b>ILWA1</b>	
<b>MS16</b>	<b>Condition monitoring and assessment of degrading reinforced concrete structures</b>
Chairs: Binder, Fritz; Burtischer, Stefan L.	
cepa.202200121 <b>Interoperable, platform independent structural health monitoring - Digital twins with long-term availability</b> Krüger, Markus*; Pongratz, Helmut; Miah, Mohammad Shamim; Lienhart, Werner; Binder, Fritz; Willeke, Jan	
cepa.202200159 <b>Durability assessment of the Laureano Gómez Bridge: a key element for new Colombian infrastructure</b> Cassiani, Juan Daniel*; Dugarte, Margareth; Kessler, Sylvia; Arteta, Carlos	
cepa.202200212 <b>Estimation of the shear capacity of decks in existing shorter reinforced concrete bridges</b> Gošte, Neža*; Triller, Petra; Isaković, Tatjana; Kreslin, Maja	
cepa.202200482 <b>Assessment of existing bridges: difficulties and challenges following the Italian experience</b> Bultarazzi, Francesca*; Chiaia, Bernardino; Marano, Giuseppe Carlo; Palmisano, Fabrizio	
<b>Fire modelling and structural assessment of concrete tunnel linings</b> Cardellino, Enrico*; de Silva, Donatella; Bilotta, Antonio; Perovic, Darko; Andreini, Marco; Rios, Oriol; La Mendola, Saverio; Nigro, Emidio	
<b>ILWA2</b>	
<b>MS21</b>	<b>Future-oriented European Standardisation on monitoring, safety assessment and maintenance of transport infrastructure</b>
Chairs: Allaix, Diego Lorenzo; Riveiro Rodríguez, Belen	
cepa.202200194 <b>Dense sensing on roadway bridges network: new approach to data-informed assessment</b> Daró, Paola*; Alovisi, Isabella; Mancini, Giuseppe; Longo, Monica; La Mazza, Dario; Cigada, Alfredo	
cepa.202200189 <b>Monitoring and data-informed assessment of steel bridges - lessons learned from a case study</b> Abspoel-Bukman, Linda*; Bigaj-van Vliet, Agnieszka; den Besten, Caroline; Joostensz, Ostar	

cepa.202200188 <b>Model updating of in-service bridges using multidisciplinary research - case studies in Spain</b> Riveiro, Belén*; Bouzas, Óscar; Barros, Brais; Conde, Borja; Cabaleiro, Manuel; Sánchez Rodríguez, Ana; Arias-Sánchez, Pedro
cepa.202200193 <b>Framework for proactive maintenance practices for transport infrastructures</b> Daró, Paola*; Alovisi, Isabella; Mancini, Giuseppe; Negri, Serena; Bigaj-van Vliet, Agnieszka; van Meerveld, Hendrik
cepa.202200181 <b>Strategies for low limit maintenance thresholds and condition states for bridge structures</b> Strauss, Alfred*; Bergmeister, Konrad; Bigaj-van Vliet, Agnieszka; Daró, Paola; Zimmermann, Thomas; van Meerveld, Hendrik
cepa.202200638 <b>Repair and retrofitting of concrete bridge girder using epoxy, micro mortar, and CFRP sheets</b> Ahmed, Khondaker*; Moniruzzaman, Md; Rupa, Kaniz

<b>ILWA3</b>	
<b>MS9</b>	<b>Advances and applications in remote monitoring of civil infrastructure</b>
Chairs: Limongelli, Maria Pina; Zonta, Daniele	
cepa.202200046 <b>UAV-based GPR prototype for structural monitoring of bridges: preliminary results and perspectives</b> Esposito, Giuseppe*; Salari, Alan; Catapano, Ilaria; Erricolo, Danilo; Soldovieri, Francesco	
cepa.202200172 <b>Hyperspectral imaging systems for corrosion detection on remotely operated vehicles</b> Thomas, Dominik*; Gündel, Max	
cepa.202200361 <b>Low frequency piezoelectric micromachined ultrasonic transducers optimized for concrete structures.</b> Sammut, Stephen*; Gatt, Edward; Borg, Ruben Paul	
cepa.202200073 <b>Dual frequency real aperture radar monitoring of a railway bridge</b> Luzi, Guido*; Palamà, Riccardo; Barros-González, Brais; Riveiro-Rodríguez, Belén	

cepa.202200236 <b>The application of modern methods for bridge diagnostics and load testing</b> Stančík, Vojtěch*; Ryjáček, Pavel
cepa.202200200 <b>On the use of domain adaptation techniques for bridge damage detection in changing environment</b> Giglioni, Valentina*; Poole, Jack; Venanzi, Ilaria; Ubertini, Filippo; Worden, Keith

<b>ILWA4</b>	
<b>MS20</b>	<b>GModelling and assessment of infrastructures under multiple hazards</b>
Chairs: Stochino, Flavio; De Domenico, Dario	
cepa.202200353 <b>Seismic performance of RC bridge piers reinforced through FRCM confinement</b> Toska, Klajdi*; Zanini, Mariano A.; Faleschini, Flora	
cepa.202200439 <b>Seismic analysis of intergral bridge considering the influence of soil structure interaction</b> Shrestha, Sudip*; Sahani, Kameshwar; Balla, Biswa Kumar	
cepa.202200600 <b>Multiple hazard assessment of bridges considering interdependencies</b> Stefanidou, Sotiria*; Markogiannaki, Olga; Mikes, Ioannis; Fragiadakis, Michalis	
cepa.202200982 <b>Damage processes and performance indicators for tunnel structures</b> Strauss, Alfred*; Bergmeister, Konrad; Zimmermann, Thomas	
cepa.202200954 <b>Interface shear analysis of UHPC-NC with u-shaped shear stud</b> Lu, Ya*; Lin, Lanri; Zhang, Xing; Shi, Xinbo; Wang, Xiao; Wang, Hao; Yang, Tao; Zhang, Chengwu; Wang, Rui; Wu, Xiangguo	

## Wednesday, September 27<sup>th</sup>, 2023 @ 15:45 – 17:30 (WeE)

<b>ILWA1</b>	
<b>GS</b>	<b>General Session</b>
Chairs: Kedar, Amir	
cepa.202200118 <b>Validating the performance of direct fastening (PAF) into concrete with high-speed measuring technology</b> Scholz, Ronja*; Franck, Pascal; Yousef, Alhussain; Spyridis, Panagiotis; Walther, Frank	
cepa.202300155 <b>Evaluation of the snow loads on the snow galleries on the Iron Ore Line in Northern Sweden</b> Saback, Vanessa*; Gonzalez-Libreros, Jaime; Daescu, Cosmin; Hojsten, Tommy; Sas, Gabriel	
cepa.202300156 <b>Demolition of a 65-year-old box-girder prestressed concrete bridge located in Northern Sweden</b> Al Daescu, Cosmin*; Gonzalez-Libreros, Jaime; Wang, Chao; Elfgrén, Lennart; Sas, Gabriel	
cepa.202200141 <b>Structural optimizations of extradosed cable-stayed bridge by using genetic algorithm</b> Simegn, Abeba*	
cepa.202300170 <b>Detecting anomalies in structural response of cable supported bridges: after extreme events</b> Caner, Alp*	

<b>ILWA2</b>	
<b>MS7</b>	<b>Future-oriented European Standardisation on monitoring, safety assessment and maintenance of transport infrastructure</b>
Chairs: Daró, Paola; Weise, Matthias	
cepa.202200201 <b>Importance of digitalization and standardization for bridge and tunnel monitoring and predictive maintenance</b> Weise, Matthias*; Böhm, Michel; Allaix, Diego; Sánchez-Rodríguez, Ana; Rigotti, Mattia	
cepa.202200187 <b>Towards standardized guidelines in digital data acquisition for monitoring and maintenance of European transport infrastructures</b> Justo, Andrés; Sánchez-Rodríguez, Ana*; Varela, María; Arias, Pedro	

cepa.202200191 <b>Towards workflows for the use of AI foundation models in visual inspection applications</b> Rigotti, Mattia*; Antognini, Diego; Assaf, Roy; Bakirci, Kagan; Frick, Thomas; Giurgiu, Ioana; Janoušková, Klára; Janicki, Filip; Jubran, Husam; Malossi, Cristiano; Meterez, Alexandru; Scheidegger, Florian
cepa.202200597 <b>Key performance indicators for building assessment. A case study on an R/C building in Greece.</b> Markogiannaki, Olga*; Stefanidou, Sotiria
cepa.202200204 <b>Semantic knowledge models for decision making in asset management: IM-SAFE Knowledge Base</b> Bektas, Esra*; Oord, Erwin; Kohler, Jochen; Sánchez-Rodríguez, Ana
cepa.202200180 <b>Key performance requirements for objective assessment &amp; through-life management of structures</b> Strauss, Alfred*; Bergmeister, Konrad; Bigaj-van Vliet, Agnieszka; Sánchez Rodríguez, Ana; Daró, Paola; Zimmermann, Thomas

<b>ILWA3</b>	
<b>GS</b>	<b>General Session</b>
Chairs: Pakrashi, Vikram	
cepa.202200827 <b>A new post-installed reinforcement system to extend life time of existing structures as contribution to sustainability</b> Feix, Jürgen*; Lechner, Johannes	
cepa.202200853 <b>Hybrid protective coatings for construction steel bars</b> Matziaris, Katia*; Tsampali, Evangelia; T sardaka, Eirini-Chrysanthi; Stefanidou, Maria	
cepa.202300153 <b>Influence of equipment, weather and personnel experience on the digitalization and damage detection of concrete bridges</b> Gonzalez-Libreros, Jaime H.*; Wang, Chao; Khaloo, Ali; Krishnan, Nikhil; Carolin, Anders; Sas, Gabriel	
cepa.202300154 <b>Shear strengthening of a concrete trough bridge using embedded through-section (ETS) FRP bars</b> Carrasco, Carlos Hermsilla*; Farré, Alfredo García; Gonzalez-Libreros, Jaime; Wang, Chao; Carolin, Anders; Kjellman, Jouko; Sas, Gabriel	

cepa.202200084 <b>Field studies of megagravel transport: relevance for coastal infrastructure engineering</b> Cox, Rónadh; Pakrashi, Vikram*
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<b>ILWA4</b>	
<b>GS</b>	<b>General Session</b>
Chairs: Stipanović, Inna	
cepa.202200693 <b>Indicators for the management of earth-retaining structures</b> Amado, João Luis*; Pratas, M.* Alexandra; Monteiro, Bernardo; Costa, André; Pinheiro, Maria	
cepa.202200742 <b>Economic assessment of corrosion prevention measures in new structures</b> Cassiani Hernandez, Juan Daniel*; Lozano Valcarcel, Juan Mauricio; Kränkel, Thomas; Gehlen, Christoph; Keßler, Sylvia	
cepa.202200782 <b>How to make monitoring more attractive to bridge owners</b> Wenzel, Helmut*; Wenzel, Moritz	
cepa.202200792 <b>Bond between ultra high-performance fiber reinforced concrete and existing concrete: a review</b> Berthod, Lara; Trento, Daniel*; Faleschini, Flora	
cepa.202200975 <b>Seismic behaviour assessment and rehabilitation of a masonry three-arched bridge</b> Bencardino, Francesco; Curto, Roberta*	
cepa.202200131 <b>Structural assessment of a post-tensioned box girder bridge affected by concrete creep</b> Sconocchia, Giuseppe Galassi*; Mariani, Francesco; Meoni, Andrea; Jerimonti, Laura; Venanzi, Ilaria; Ubertini, Filippo	

## THURSDAY, SEPTEMBER 28<sup>TH</sup>, 2023

### ILWA1 – Keynote Lectures

(08:30-10:00)

Chair: **Konrad Bergmeister**  
University of Natural Resources and Life Sciences (BOKU), Austria

Co-Chair: **Vikram Pakrashi**  
University College Dublin, Ireland



Digital transformation  
**Engel, Judith**  
ÖBB Infra AG  
Austria, Vienna



Sustainability in engineering  
**Gervásio, Helena**  
University of Coimbra  
Coimbra, Portugal

Coffee break (10:00-10:20)

### Parallel Technical Sessions

(10:20-12:15)

ILWA1 • ThM • MS18 Advanced methods and techniques for the quality evaluation of structural upgrade interventions

ILWA2 • ThM • MS11 Structural Health Monitoring, Digital Methods and Artificial Intelligence for Lifecycle Performance of Infrastructure Systems

ILWA3 • ThM • MS12 Corrosion and durability monitoring of bridges and structures

Lunch break (12:15-13:30)

### Parallel Technical Sessions

(13:30-15:30)

ILWA1 • ThA • MS19 Structural Health Monitoring

ILWA2 • ThA • MS11 Structural Health Monitoring, Digital Methods and Artificial Intelligence for Lifecycle Performance of Infrastructure Systems

ILWA3 • ThA • MS12 Corrosion and durability monitoring of bridges and structures

ILWA4 • ThA • MS7 Digital Bridge Monitoring: Integration of NDTs and Visualization Tools for Structural and Durability Assessment

Coffee break (15:30-15:45)

### Parallel Technical Sessions

(15:45-17:30)

ILWA1 • ThE • MS19 Structural Health Monitoring

ILWA2 • ThE • MS11 Structural Health Monitoring, Digital Methods and Artificial Intelligence for Lifecycle Performance of Infrastructure Systems

ILWA3 • ThE • MS13 Advances in the safety and integrity of critical infrastructures via the application of artificial intelligence

ILWA4 • ThE • MS18 Advanced methods and techniques for the quality evaluation of structural upgrade interventions

### Closing Session

(17:30-18:15)

## Thursday, September 28<sup>th</sup>, 2023 @ 10:20 – 12:15 (ThM)

<b>ILWA1</b>	
<b>MS18</b>	<b>Advanced methods and techniques for the quality evaluation of structural upgrade interventions</b>
Chairs: Münch, Ingo Algemon, Daniel	
cepa.202200111	<b>Machine learning applications in nondestructive testing of concrete structures</b>
Algemon, Daniel*; Münch, Ingo; Muller, Aurélie; Thurnherr, Claudia	
cepa.202200115	<b>Cementitious materials with biological additive for enhanced durability in marine environment</b>
Iovane, Giacomo*; Kim, Hayeon; Tizzano, Domenico; Mazzolani, Federico M.; Landolfo, Raffaele; Park, Solmoi; Faggiano, Beatrice	
cepa.202200137	<b>A deterministic model combining NDT to estimate permissible bending loads on trees</b>
Muench, Ingo*; Loske, Simon	
cepa.202200148	<b>Effect of material strength uncertainties on the structural assessment of existing RC bridges</b>
Zizi, Mattia*; Di Gennaro, Luciana; Bencivenga, Pasquale; De Matteis, Gianfranco	
cepa.202200356	<b>Ductility of RC columns confined with FRP sheets</b>
Apostolidi, Eftychia*; Liakopoulou, Efstathia; Dritsos, Stephanos; Waldmann-Diederich, Danièle	
cepa.202200818	<b>External confinement with basalt fiber ropes in existing reinforced concrete structures</b>
Rousakis, Theodoros*; Macha, Makrini	

<b>ILWA2</b>	
<b>MS11</b>	<b>Structural Health Monitoring, Digital Methods and Artificial Intelligence for Lifecycle Performance of Infrastructure Systems</b>
Chair: Schneider, Jens Klemt-Albert, Katharina	
cepa.202200020	<b>Towards an automated crack monitoring using distributed fiber optic sensors</b>
Richter, Bertram*; Herbers, Max; Marx, Steffen	

cepa.202200021	<b>Crack monitoring on concrete structures using robust distributed fiber optic sensors</b>
Herbers, Max*; Richter, Bertram; Marx, Steffen	
cepa.202200029	<b>Monitoring on federal highways bridges: current situation, future opportunities &amp; digital implementation</b>
Hindersmann, Iris*; Bednorz, Jennifer; Nieborowski, Sonja	
cepa.202200050	<b>Text recognition for 2D bridge plans using OCR algorithms</b>
Peng, Mengyan*; Kang, Chongjie; Marx, Steffen	
cepa.202200064	<b>Sustainability assessment of bridge structures in the operation phase based on a digital twin</b>
Jäkel, Jan-Iwo*; Kaus, Michelle; Klemt-Albert, Katharina	
cepa.202200069	<b>Concept for AI-supported information allocation based on IFC data</b>
Faltin, Fabian*; Gille, Jonathan; Jäkel, Jan-Iwo	

<b>ILWA3</b>	
<b>MS12</b>	<b>Corrosion and durability monitoring of bridges and structures</b>
Chairs: Kessler, Sylvia Angst, Ueli	
cepa.202200027	<b>The role of durability monitoring in taking infrastructure maintenance to the level of industry 4.0</b>
Angst, Ueli M.*; Femenias, Yurena Seguí; Moro, Fabrizio	
cepa.202200036	<b>Long-term resistivity monitoring of a lock – valuable data for different durability issues</b>
Spörel, Frank*	
cepa.202200053	<b>Quality control criteria for gas permeability testing of concrete structures</b>
Ptacek, Lisa*; Grba, Damian; Granzner, Maximilian; Sattler, Fabian; Frangopol, Dan M.; Strauss, Alfred	
cepa.202200058	<b>Optical sensors for the durability assessment of cement-based infrastructure</b>
Grengg, Cyrill*; Müller, Bernhard; Zögl, Iris; Sakopanig, Marlene; Mittermayr, Florian; Mayr, Torsten; Sterz, Karl Leonhard; Juhart, Joachim; Galan, Isabel	

cepa.202200072	<b>Inspection and monitoring of post-tensioned bridges – advantages of electrically isolated tendons (EIT)</b>
Eisener, Bernhard*	
cepa.202200075	<b>Experience and status of instrumented durability monitoring of concrete bridges in Norway</b>
Hornbostel, Karla*; Vasshaug, Kristin	

Thursday, September 28<sup>th</sup>, 2023 @ 13:30 – 15:30 (ThA)

<b>ILWA1</b>	
<b>MS19</b>	<b>Structural Health Monitoring</b>
Chairs: Pakrashi, Vikram Reuland, Yves	
cepa.202200063 <b>Laminated glass slabs design challenges: dynamic identification of a fractured pedestrian walkway</b>	
Rosso, Marco Martino*; Aloisio, Angelo; Bedon, Chiara; Marano, Giuseppe Carlo	
cepa.202200057 <b>The challenges of long-time high-sampled structural health monitoring: a practical feedback</b>	
Cartiaux, François-Baptiste*; Semiao, Jorge	
cepa.202200065 <b>Unexpected flange crippling of a newly built cyclist bridge</b>	
Van Bogaert, Philippe; De Backer, Hans*	
cepa.202200085 <b>Structural evaluation by reverse engineering with 3D laser scanner</b>	
Jang, Arum*; Jeong, Sanggi; Park, Min Jae; Ju, Young K.	
cepa.202200089 <b>A comparison of modal parameter identification tests in laboratory conditions</b>	
Đukić, Đorđe*; Anžlin, Andrej; Hekić, Doron; Bohinc, Uroš; Kosić, Mirko	
cepa.202200216 <b>Sensory monitoring system of the post-tensioned concrete bridge over the Odra River in Poland</b>	
Kuzawa, Mieszko*; Bieł, Jan	
<b>ILWA2</b>	
<b>MS11</b>	<b>Structural Health Monitoring, Digital Methods and Artificial Intelligence for Lifecycle Performance of Infrastructure Systems</b>
Chairs: Klemt-Albert, Katharina Marx, Steffen	
cepa.202200074 <b>BIM-based immersive meetings for optimized maintenance management of bridge structures</b>	
Jahnke, Christoph*; Jäkel, Jan-Iwo; Bott, Dorte; Meyer-Westphal, Markus; Klemt-Albert, Katharina; Marx, Steffen	
cepa.202200080 <b>Permanent structural health monitoring of a new prestressed concrete bridge</b>	
Wimmer, Johannes*; Braml, Thomas	

cepa.202200087 <b>BIM-models of bridges in the operational phase: use cases, phase model and reference architecture</b>	Jäkel, Jan-Iwo*; Klemt-Albert, Katharina
cepa.202200106 <b>Concept for a digital twin of railway bridges on the example of the new Filstal bridges</b>	Naraniecki, Hubert*; Lazoglu, Alex; Marx, Steffen; Zaidman, Igor
cepa.202200132 <b>Virtual axle detector: train axle localization based on bridge vibrations</b>	Riedel, Henrik*; Lorenzen, Steven Robert; Rupp, Maximilian Michael; Fritzsche, Max Alois; Schneider, Jens
cepa.202200158 <b>Long-term validation of virtual sensing of a railway bridge with ballasted superstructure</b>	Lorenzen, Steven Robert*; Berthold, Hagen; Johannes, Max; Fritzsche, Alois; Rupp, Maximilian Michael; Riedel, Henrik; Apostolidi, Eftychia; Schneider, Jens

<b>ILWA3</b>	
<b>MS12</b>	<b>Corrosion and durability monitoring of bridges and structures</b>
Chairs: Angst, Ueli Kessler, Sylvia	
cepa.202200095 <b>Prediction of corrosion rates in view of climate change with rising temperatures</b>	Moro, Fabrizio*; Kešler, Sylvia; Landi, Filippo
cepa.202200161 <b>Weathering steel bridge structure after 30 years of service - assessment experience#</b>	Wierzbicki, Tomasz*; Królikowska, Agnieszka; Żółtowski, Mariusz
cepa.202200168 <b>Measurement of corrosion rates on reinforcement using the field test</b>	Koteš, Peter*; Zahuranec, Michal; Prokop, Jozef; Strauss, Alfred; Matos, José
cepa.202200264 <b>Probabilistic analysis of corrosion rates and degradation of weathering steel bridges</b>	Sykora, Miroslav*; Kreislova, Katerina; Markova, Jana; Mlcoch, Jan
cepa.202200677 <b>Cutting stock problem (CSP) applied to structural optimization for the minimum waste cost</b>	Cucuzza, Raffaele*; Domaneschi, Marco; Rosso, Marco Martino; Martinelli, Luca; Marano, Giuseppe Carlo

cepa.202200692 <b>Analysis of environmental data obtained from meteorological road stations in Latvia for 20 years</b>	Paegliitis, Ainars*; Paeglite, Ilze; Zugs, Maris
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<b>ILWA4</b>	
<b>MS7</b>	<b>Digital Bridge Monitoring: Integration of NDTs and Visualization Tools for Structural and Durability Assessment</b>
Chairs: Rasol, Mezgeen Fragiadakis, Michalis	
cepa.202200663- <b>A methodological proposal for the analysis of bridges inspections data according to the Italian Guidelines</b>	Mazzatura, Isabella*; Natali, Agnese; Salvatore, Walter; Principi, Lorenzo; Morici, Michele; Dall'Asta, Andrea
cepa.202200217 <b>Automated creation of an IFC-4 compliant damage model from a digital inspection supported by AI</b>	Furter, Peter*; O'Brien, Peter
cepa.202200242 <b>Electromagnetic testing of multi-strand stay cables: novel technique and instrumentation</b>	Semenov, Alexey*; Slesarev, Dmitry
cepa.202200602 <b>Integration of measured data for the seismic fragility assessment of deteriorated bridges</b>	Fragiadakis, Michalis; Prentzas, Ioannis*; Georgioudakis, Manolis; Diamantopoulos, Spyridon; Markogiannaki, Olga; Stefanidou, Sotiria
cepa.202200832 <b>Mixed reality procedures for the maintenance of existing bridges and retaining walls</b>	Savini, Francesca*; Castiglia, Massimina; Gargaro, Danilo; Trizio, Ilaria; Fabbrocino, Giovanni
cepa.202200650 <b>Fire modelling and structural assessment of automated clad-rack warehouses</b>	Autiero, Margherita*; de Silva, Donatella; Bilotta, Antonio; Nigro, Emidio

Thursday, September 28<sup>th</sup>, 2023 @ 15:45 – 17:30 (ThE)

<b>ILWA1</b>	
<b>MS19</b>	<b>Structural Health Monitoring</b>
Chairs: Chatzi, Eleni Pakrashi, Vikram	
cepa.202200444 <b>A full-scale case study of vibration-based structural health monitoring of bridges: prospects and open challenges</b>	Reuland, Yves*; Garcia-Ramonda, Larisa; Martakis, Panagiotis; Bogojevka, Simona; Chatzi, Eleni
cepa.202200675 <b>Dealing with significant noise levels in vibration-based bridge health monitoring? A novel ARMA+Noise algorithm in the Frish scheme context</b>	Zonzini, Federica*; Castaldi, Paolo; De Marchi, Luca
cepa.202200286 <b>Numerical investigation on buckling response of cylindrical steel storage tanks under seismic excitation</b>	Ullah, Shafiqat*; Mamaghani, Iraj H.P.
cepa.202200190 <b>Case study: use of SHM to support bridge assessment, maintenance and operation</b>	Paciacconi, Andrea*; Richli, Thomas
cepa.202200874 <b>Experimental validation of DFOS monitoring system for a bridge girder made of wind turbine blade</b>	Rajchel, Mateusz*; Kulpa, Maciej; Siwowski, Tomasz

<b>ILWA2</b>	
<b>MS11</b>	<b>Structural Health Monitoring, Digital Methods and Artificial Intelligence for Lifecycle Performance of Infrastructure Systems</b>
Chairs: Marx, Steffen Schneider, Jens	
cepa.202200448 <b>A Bayesian framework for simulation-based digital twins of bridges</b>	Arcones, Daniel Andrés*; Weiser, Martin; Koutsourelakis, Faidon-Stelios; Unger, Jörg F.
cepa.202200680 <b>Structural control and health monitoring contributions to service-life extension of bridges</b>	Domaneschi, Marco*; Martinelli, Luca; Cucuzza, Raffaele; Noori, Mohammad; Marano, Giuseppe Carlo

cepa.202200948 <b>Experimental verification of FRP bridge deck's monitoring system based on DFOS sensors</b>	Kulpa, Maciej*; Rajchel, Mateusz; Siwowski, Tomasz; Howiacki, Tomasz
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<b>ILWA3</b>	
<b>MS13</b>	<b>Advances in the Safety and Integrity of Critical Infrastructures via the Application of Artificial Intelligence</b>
Chairs: Ben Seghier, Mohamed El Amine Zayed, Tarek	
cepa.202200039 <b>Automatic multi-label classification of bridge components and defects based on inspection photographs</b>	Pâques, Matthieu*; Law-Hine, Didier; Hamedane, Otmane Alami; Magnaval, Allezard, Nicolas
cepa.202200047 <b>Predicting wall thickness loss in water pipes using machine learning techniques</b>	Taiwo, Ridwan*; Ben Seghier, Mohamed El Amine; Zayed, Tarek

cepa.202200070 <b>Scrutinizing the performances of hybrid ANN models for forecasting condition of bridges</b>	Eishaboury, Nehal*; Ben Seghier, Mohamed El Amine; Abdelkader, Eslam Mohammed; Zayed, Tarek
cepa.202200071 <b>A novel chaotic optimization-oriented model for bridge maintenance and rehabilitation planning</b>	Abdelkader, Eslam Mohammed*; Ben Seghier, Mohamed El Amine; Eishaboury, Nehal; Zayed, Tarek

cepa.202200076 <b>Assessment of artificial intelligence-based techniques for the estimation of pile group scour depth</b>	Jafari-Asl, Jafar*; Ben Seghier, Mohamed El Amine; Panagiotis, Spyridis; Strauss, Alfred
cepa.202200133 <b>Data cleansing &amp; overfitting check for interpretable ML in concrete design – a punching shear paradigm</b>	Mellios, Nikolaos*; Spyridis, Panagiotis

<b>ILWA4</b>	
<b>MS16</b>	<b>Advanced methods and techniques for the quality evaluation of structural upgrade interventions</b>
Chairs: Spyridis, Panagiotis Rousakis, Theodoros	
cepa.202200082 <b>Load-bearing capacity of support block for temporary bridge girder end with L-shaped notch</b>	Li, Ruoxi*; Chen, Yu; Matsuda, Isao; Azuma, Hiroto; Yamaguchi, Takashi
cepa.202200102 <b>Analytical study on yield resistance for staggered arranged high strength bolted frictional joints</b>	Qian, Lin*; Sakura, Ryo; Yamaguchi, Takashi; Hayashi, Gen
cepa.202200103 <b>A coupled behaviour of web and flange on bending buckling of the web of steel box girder</b>	Ikedo, Miku*; Yamaguchi, Takashi; Arai, Shintaro; Hayashi, Gen
cepa.202200104 <b>Effect of surface coating condition on high-friction organic zinc-rich paints for HSFJ joints</b>	Zou, Ying*; Yamaguchi, Takashi; Ueno, Keita; Hiraoka, Shinya
cepa.202200105 <b>Life cycle management for service life extension of structures</b>	Strauss, Alfred*; Zimmermann, Thomas; Bergmeister, Konrad
cepa.202200108 <b>Performance of joint structure of bent L-shaped steel members for GFRP wall railings</b>	Sekimoto, Masaki*; Hayashi, Gen; Yamaguchi, Takashi; Kubo, Keigo
cepa.202200973 <b>Assessment prediction of anchors in SFRC using minimally invasive and non-destructive techniques</b>	Mellios, Nikolaos*; Kruschwitz, Sabine; Spyridis, Panagiotis