

# 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



**Andreas Pürgstaller**  
Digitalisation in Structural Engineering



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

 **Eugen Brühwiler**  
Quality control in introducing the new UHPFRC Technology  
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**

**MS14** Structural reliability assessment of existing post-tensioned concrete bridges

Chairs: Micozzi, Fabio; Gioiella, Laura

cepa.202200024  
**Strength reduction curves for corroded seven-wire strands**  
Marra, Matteo\*; Palermo, Michele; Trombetti, Tomaso; Silvestri, Stefano

cepa.202200026  
**Assessment of bridge post-tensioning systems using non-destructive (ND) inspection methods**  
Quaglini, Virginio; Pettoroso, Carlo\*; Cattaneo, Sara; Rossi, Dalila

cepa.202200088  
**Investigation, assessment, strategy for deck widening of existing HWY PT bridges**  
Zoratto, Nadia\*; Giovenale, Paolo; Buttarazzi, Francesca; Di Lorenzo, Alessandra

cepa.202200150  
**Nonlinear analysis procedures for safety assessment of existing RC bridges under traffic loads**  
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  
**A case study for the reliability evaluation of an existing prestressed bridge according to current standard**  
Poeta, Alberto\*; Micozzi, Fabio; Gioiella, Laura; Dall'Asta, Andrea

**ILWA2**

**MS1** Information value-driven infrastructure management: challenges and opportunities

Chairs: Giordano, Pier Francesco; Teixeira, Rui

cepa.202200013  
**A common data environment for value-driven data management in German road construction**  
Matthei, Jonathan\*; Gölzhäuser, Peter; Klemt-Albert, Katharina; Schulze, Christian; Moharekpour, Milad; Plattenteich, Andreas

cepa.202200012  
**Data driven planning and approval processes of public road construction projects**  
Matthei, Jonathan\*; Klemt-Albert, Katharina

cepa.202200028  
**Remedial measures works programme for Slovenian motorway infrastructure**  
Kušar, Matej\*; Jurgele, Mitja

cepa.202200140  
**Initiation and propagation of failures in steel truss bridges**  
López, Santiago\*; Makoond, Nirvan; Sánchez-Rodríguez, Ana; Adam, José M.; Riveiro, Belén

cepa.202200142  
**Repair and retrofit of bridge structural elements: new cementitious materials**  
Ramaswamy, Ananth\*

cepa.202200352  
**Identification of influencing factors on bridge damages using Bayesian network**  
Miyakawa, Teruyuki\*; Nakamura, Shozo; Nishikawa, Takafumi

**ILWA3**

**MS9** Bridges' Life-Cycle Risk Analysis and Management

Chairs: Uva, Giuseppina; Venanzi, Ilaria

cepa.202200025  
**A new methodology for the prioritization of visual inspections of bridges and viaducts**  
Meoni, Andrea\*; García-Macías, Enrique; Venanzi, Ilaria; Ubertini, Filippo

cepa.202200077  
**Vulnerability to traffic loads of typical Italian bridges in relation to the evolution of the code framework**  
Bozza, Stefano\*; Fasan, Marco; Noè, Salvatore

**cepa.202200101**  
**Multi-risk assessment for bridges: the application of the Italian Guidelines**  
Di Sano, Silvia\*; Costa, Giancarlo; Giordano, Pier Francesco; Pregolato, Maria; Limongelli, Maria Pina

cepa.202200119  
**A LCCA framework for the management of bridges based on data fusion from visual inspections and SHM systems**  
Ierimonti, Laura\*; Mariani, Francesco; Venanzi, Ilaria; Ubertini, Filippo

cepa.202200134  
**Multi source interferometry synthetic aperture radar for monitoring existing bridges: a case study**  
Calò, Mirko; Ruggieri, Sergio\*; Nettis, Andrea; Uva, Giuseppina Segio; Nettis, Andrea; Uva, Giuseppina

**ILWA4**

**GS** General Session

Chairs: Strauss, Alfred; Apostolidi, Eftychia

cepa.202200016  
**Monitoring the fatigue-induced strain evolution of concrete bridges using fiber optic sensors**  
Becks, Henrik\*; Brockmann, Daniel; Hegger, Josef; Classen, Martin

cepa.202200042  
**Digital life-cycle and asset-management for steel bridges**  
Geßler, Achim\*; Hoffmeister, Benno; Geers, Thorben

cepa.202200055  
**Using distributed fibreoptic sensing to monitor repaired structures reinforced with steel-patches**  
Grefe, Hinrich\*; Stammen, Elisabeth; Dilger, Klaus; Baudone, Tommaso; Arutyunyan, Garnick; Baitinger, Mascha

cepa.202200056  
**Life-cycle performance of noise barriers focusing on installation conditions of fasteners**  
Granzner, Maximilian\*; Strauss, Alfred; Reiterer, Michael; Kari, Hannes

cepa.202200094  
**Optimization of extradosed bridge and analysis of parameters' sensitiveness as a case study on Abay Bridge**  
Lamesgin, Abeba\*; Golla, Alemayehu; Rasool, Ghulam; Jemanenh, Wubishet

cepa.202200123  
**Data based reliability and risk based assessment for service life extension of structures**  
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 Apostolidi, 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; Pettoruso, Carlo; Quaglini, 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, Vladimir*; Rimkus, Arvydas; 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 recent 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; Ballio, Francesco	

cepa.202200541 <b>Flood vulnerability assessment: an effective tool to evaluate the lifecycle risk analysis of bridges.</b>	
Kosič, 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>	
Martí-Vargas, José R.*; Castro-Bugallo, Carmen; Navarro-Gregori, Juan; Mateu-Sánchez, Juan A.	

<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; Gaillet, 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; Quarchioni, 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; Döllner, Jürgen; Bednorz, Jennifer	
cepa.202200173 <b>Analysis of the impact of the ribbon track on unconventional fixing on a steel multi-span bridge</b>	
Odrobiňák, 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.*	

<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; Vežočnik, Rok; Hekič, Doron; Anžlin, Andrej	
cepa.202200170 <b>Strengthening of precast segmental bridge built in 1960s using external tendons</b>	
Moravcik, Martin*; Bujnakova, Petra; Kralovanec, 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, Sawsan 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; Apostolidi, 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; Vospernig, Michael; Apostolidi, 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 Garcia; Ubertini, Filippo; Gattulli, Vincenzo; Martinez, Pedro Poveda; Gorriz, Benjamín 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>	
Lehký, David*; Šplíchal, 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; Apostolidi, 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*	



**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



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

**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
ILWA2 • WeA • MS21	Future-oriented European Standardisation on monitoring, safety assessment and maintenance of transport infrastructure
ILWA3 • WeA • MS2	Advances and applications in remote monitoring of civil infrastructure
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

**ILWA1**

**MS16** Condition monitoring and assessment of degrading reinforced concrete structures

Chairs: Binder, Fritz  
Burtscher, Stefan L.

cepa.202200052  
**Concept to assess the performance on degrading concrete structures components**

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**

**MS21** 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**

Scibilia, Elena\*; Hoff, Inge; De Urquia, 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**

**MS2** 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; Frascella, 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**

**MS20** 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 Burtscher, 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> Buttarazzi, 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> Sammur, 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.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; Ierimonti, Laura; Venanzi, Ilaria; Ubertini, Filippo
cepa.202200200	<b>On the use of domain adaptation techniques for bridge damage detection in a changing environment</b> Gigliani, 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 FRCC 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; Elfgren, 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*; Böhms, 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 Hermosilla*; 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*
<b>ILWA4</b>	
<b>GS</b>	<b>General Session</b>
Chairs: Stipanović, Irina	
cepa.202200693	<b>Indicators for the management of earth-retaining structures</b> Amado, João Luís*; Pratas, M.ª 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; Ierimonti, Laura; Venanzi, Ilaria; Ubertini, Filippo



**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



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



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)

**ILWA1**

**MS18** Advanced methods and techniques for the quality evaluation of structural upgrade interventions

Chairs: Münch, Ingo  
Algernon, Daniel

cepa.202200111  
**Machine learning applications in nondestructive testing of concrete structures**  
Algernon, Daniel\*; Münch, Ingo; Muller, Aurélie; Thurnherr, Claudia

cepa.202200115  
**Cementitious materials with biological additive for enhanced durability in marine environment**  
Iovane, Giacomo\*; Kim, Hayeon; Tizzano, Domenico; Mazzolani, Federico M.; Landolfo, Raffaele; Park, Solmoi; Faggiano, Beatrice

cepa.202200137  
**A deterministic model combining NDT to estimate permissible bending loads on trees**  
Muench, Ingo\*; Loske, Simon

cepa.202200148  
**Effect of material strength uncertainties on the structural assessment of existing RC bridges**  
Zizi, Mattia\*; Di Gennaro, Luciana; Bencivenga, Pasquale; De Matteis, Gianfranco

cepa.202200356  
**Ductility of RC columns confined with FRP sheets**  
Apostolidi, Eftychia\*; Liakopoulou, Efsthathia; Dritsos, Stephanos; Waldmann-Diederich, Danièle

cepa.202200818  
**External confinement with basalt fiber ropes in existing reinforced concrete structures**  
Rousakis, Theodoros\*; Macha, Makrini

**ILWA2**

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

Chair: Schneider, Jens  
Klemt-Albert, Katharina

cepa.202200020  
**Towards an automated crack monitoring using distributed fiber optic sensors**  
Richter, Bertram\*; Herbers, Max; Marx, Steffen

cepa.202200021  
**Crack monitoring on concrete structures using robust distributed fiber optic sensors**  
Herbers, Max\*; Richter, Bertram; Marx, Steffen

cepa.202200029  
**Monitoring on federal highways bridges: current situation, future opportunities & digital implementation**  
Hindersmann, Iris\*; Bednorz, Jennifer; Nieborowski, Sonja

cepa.202200050  
**Text recognition for 2D bridge plans using OCR algorithms**  
Peng, Mengyan\*; Kang, Chongjie; Marx, Steffen

cepa.202200064  
**Sustainability assessment of bridge structures in the operation phase based on a digital twin**  
Jäkel, Jan-Iwo\*; Kaus, Michelle; Klemt-Albert, Katharina

cepa.202200069  
**Concept for AI-supported information allocation based on IFC data**  
Faltin, Fabian\*; Gille, Jonathan; Jäkel, Jan-Iwo

**ILWA3**

**MS12** Corrosion and durability monitoring of bridges and structures

Chairs: Kessler, Sylvia  
Angst, Ueli

cepa.202200027  
**The role of durability monitoring in taking infrastructure maintenance to the level of industry 4.0**  
Angst, Ueli M.\*; Femenias, Yurena Seguí; Moro, Fabrizio

cepa.202200036  
**Long-term resistivity monitoring of a lock – valuable data for different durability issues**  
Spörel, Frank\*

cepa.202200053  
**Quality control criteria for gas permeability testing of concrete structures**  
Ptacek, Lisa\*; Grba, Damian; Granzner, Maximilian; Sattler, Fabian; Frangopol, Dan M.; Strauss, Alfred

cepa.202200058  
**Optical sensors for the durability assessment of cement-based infrastructure**  
Grengg, Cyrill\*; Müller, Bernhard; Zögl, Iris; Sakopanig, Marlene; Mittermayr, Florian; Mayr, Torsten; Sterz, Karl Leonhard; Juhart, Joachim; Galan, Isabel

cepa.202200072  
**Inspection and monitoring of post-tensioned bridges – advantages of electrically isolated tendons (EIT)**  
Elsener, Bernhard\*

cepa.202200075  
**Experience and status of instrumented durability monitoring of concrete bridges in Norway**  
Hornbostel, Karla\*; Vasshaug, Kristin

<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; Hekič, Doron; Bohinc, Uroš; Kosič, Mirko	
cepa.202200216 <b>Sensory monitoring system of the post-tensioned concrete bridge over the Odra River in Poland</b>	
Kuzawa, Mieszko*; Bień, 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, Dörte; 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*; Keßler, Sylvia; Landi, Filippo
cepa.202200161 <b>Weathering steel bridge structure after 30 years of service - assessment experience#</b>	Wierzbicki, Tomasz*; Królikowska, Agnieszka; Zóltowski, 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>	Paeglitis, 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>	Furtner, 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
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cepa.202200650 <b>Fire modelling and structural assessment of automated clad-rack warehouses</b>	Autiero, Margherita*; de Silva, Donatella; Bilotta, Antonio; Nigro, Emidio
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<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; Bogoevska, Simona; Chatzi, Eleni
cepa.202200675 <b>Dealing with significant noise levels in vibration-based bridge health monitoring? A novel ARMA+Noise algorithm in the Frisch 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, Shafqat*; Mamaghani, Iraj H.P.
cepa.202200190 <b>Case study: use of SHM to support bridge assessment, maintenance and operation</b>	Paciaroni, 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.
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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
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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
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cepa.202200047 <b>Predicting wall thickness loss in water pipes using machine learning techniques</b>	Taiwo, Ridwan*; Ben Seghier, Mohamed El Amine; Zayed, Tarek
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cepa.202200070 <b>Scrutinizing the performances of hybrid ANN models for forecasting condition of bridges</b>	Elshaboury, Nehal*; Ben Seghier, Mohamed El Amine; Abdelkader, Eslam Mohammed; Zayed, Tarek
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cepa.202200071 <b>A novel chaotic optimization-oriented model for bridge maintenance and rehabilitation planning</b>	Abdelkader, Eslam Mohammed*; Ben Seghier, Mohamed El Amine; Elshaboury, Nehal; Zayed, Tarek
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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
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cepa.202200133 <b>Data cleansing &amp; overfitting check for interpretable ML in concrete design – a punching shear paradigm</b>	Mellios, Nikolaos*; Spyridis, Panagiotis
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<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
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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
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cepa.202200103 <b>A coupled behaviour of web and flange on bending buckling of the web of steel box girder</b>	Ikeda, Miku*; Yamaguchi, Takashi; Arai, Shintaro; Hayashi, Gen
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cepa.202200104 <b>Effect of surface coating condition on high-friction organic zinc-rich paints for HSFB joints</b>	Zou, Ying*; Yamaguchi, Takashi; Ueno, Keita; Hiraoka, Shinya
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cepa.202200105 <b>Life cycle management for service life extension of structures</b>	Strauss, Alfred*; Zimmermann, Thomas; Bergmeister, Konrad
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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
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cepa.202200973 <b>Performance prediction of anchors in SFRC using minimally invasive and non-destructive techniques</b>	Mellios, Nikolaos*; Kruschwitz, Sabine; Spyridis, Panagiotis
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