

Programme at a glance (27 june)

Time	Congress Hall	Harlekin - ground floor	Columbine - ground floor	Pjerrot - ground floor	Arkaden 4+5 - 2 nd floor	Arkaden 6 - 2 nd floor	Arkaden 7 - 2 nd floor	Arkaden 8 - 2 nd floor	Dansetten - 2 nd floor	Glassalen - 1 st floor	Arkaden 2+3 - 2 nd floor
THURSDAY 27 JUNE											
09:00-10:00	Keynote Speaker <i>Chairs: Joan Casas and Silas Nørager</i> Innovations in bridge management in Australia to rise to the challenges of today and the future. <i>Presenter: Nigel Powers</i> AI support for bridge SHM and life cycle assessment. <i>Presenter: Shamim Pakzad</i>										
10:00-10:30	Coffee Break										
10:30-12:00	MS 10	MS 13	SS 16	GS 19	SS 29	MS 01	SS 17	SS 15	SS 07	SS 20	MS 08
	MS Application of probabilistic techniques for the assessment and performance prediction of corroding concrete bridges <i>Chairs: S. Ravasini and B. Billetti</i>	Bridge Loading – Measurement and Modelling <i>Chairs: C. Caprani and E. O'Brien</i>	Redundancy in Bridges: Design, Fabrication and Bridge Maintenance <i>Chairs: A. Mosavi</i>	BRIDGE SAFETY – Assessment and evaluation (4) <i>Chairs: G.V. Gudmundsson and O.B. Ulstrup</i>	Risk-based assessment and prioritization of bridge stocks <i>Chairs: N. Scattarreggia and R. Monteiro</i>	Prediction and Extension of the Service Duration of Bridges <i>Chairs: A. Miyamoto and A. Yabe</i>	Integrating digital twin with machine-learning techniques for structural damage identification <i>Chairs: J.F. Jiménez-Alonso and I. Duvnjak</i>	Steel Bridge Rehabilitation <i>Chair: M. Sakano</i>	Vehicle-Based Sensing Solutions for Indirect Bridge Condition Monitoring <i>Chairs: R. Corbally and S.R. Lorenzen</i>	Sensing technology and data processing algorithm towards bridge life-cycle maintenance and safety <i>Chairs: H. Qu</i>	Sustainable and efficient monitoring and digitization-based decision-making models <i>Chairs: A. Strauss and D. Novak</i>
	Influence of repair interventions on the safety of a reinforced concrete road bridge subjected to chloride ingress. <i>Presenter: K. Van Den Hende</i>	FE model and verification as digital twin of structural behavior for infrastructure manage. <i>Presenter: H. Shirahata</i>	Development of the Current AASHTO Integrated Fracture-control Plan for Steel Bridges. <i>Presenter: R. Connor</i>	FEM-based dynamic analysis of noise barriers under train-induced aerodynamic load. <i>Presenter: C. Wang</i>	Management of Earth Retaining Structures Based on Condition and Criticality. <i>Presenter: J. L. Amado</i>	Analysis of the Effect of Hoop Prestressed Steel Wire Rope Reinforcement on Bridge Piers and the Loss of Prestress. <i>Presenter: Z. Liu</i>	Bridge condition and performance monitoring: An engineering approach. <i>Presenter: P. McCarten</i>	Application of Microwave Vibrometry in bridge monitoring & dynamic analysis. <i>Presenter: S. Bai</i>	Mitigation of unwanted effects in drive-by acceleration data for bridge monitoring. <i>Presenter: A. González</i>	A new multi-source data fusion method for seismic identification of bridge. <i>Presenter: H. Qu</i>	Corrosion Cracks Identification in Reinforced Concrete with Deep Learning SCNet Model. <i>Presenter: X. Ying</i>
	Probabilistic assessment of the moment-curvature response of PC beams with different corrosion scenarios. <i>Presenter: B. Belletti</i>	On the assessment of the vibrational response of highly-skewed high-speed railway bridges. <i>Presenter: M. D. Martinez-Rodrigo</i>	Internal Redundancy Approach for Built-up Mechanically Fastened Steel Tension Members in the United States. <i>Presenter: J. Lloyd</i>	Analytical Evaluation of Hybrid Deck Bulb Tee as a Solution to Bridge Replacement. <i>Presenter: P. Agüero-Barrantes</i>	Automatic calibration of structural BIM models applied to bridges. <i>Presenter: J. A. Lozano-Galant</i>	Development and Application of Anti-differential Disturbance Concrete for Widening Bridge. <i>Presenter: J. Song</i>	Determination of precast concrete bridge slab connection stiffness by developing a digital twin. <i>Presenter: I. Duvnjak</i>	Maintenance of Large Expansion Joint in Honshu-Shikoku Bridges. <i>Presenter: M. Hongo</i>	Smartphone-Based Monitoring: Improving the Bridges Braking Force Model. <i>Presenter: M. Breveglieri</i>	SENMOS: A User-Centered Approach to Structural Health Monitoring With Applications on Lillebæltsbroen af 1935 <i>Presenter: K. Myrtue</i>	Human role in existing bridge Digital Twin frameworks, towards Industry 5.0. <i>Presenter: A. Jiménez Rios</i>

	A dynamic Bayesian network approach for multi-component fragility of aging bridges. Presenter: F. Molaooni	Modal identification and soil-structure interaction study of a portal frame railway bridge. Presenter: E. Moliner Cabedo	Identifying System Redundant Members in a Steel Arch Bridge through advanced Finite Element Analyses. Presenter: A. Mosavi	PCA-based technique to assess the modal properties of Itacaiúnas bridge during flood. Presenter: T. Bittencourt	Sustainable-Centered Approach for Bridge Management: A Game-Changer Paradigm. Presenter: D. Duzzi	Safety performance evaluation of suspension bridge tunnel anchor structure. Presenter: J. Song	Damage detection of riveted truss bridge using ANN-aided AMS optimization method. Presenter: B. Špíchal	Fatigue behavior of steel plates subjected to marine environment. Presenter: A. Chang	Bridge damage classification using multiple responses of vehicles and 1-D convolutional neural networks. Presenter: Z. Li	Investigation of the Effect of Surface Condition Variation on Infrared Imaging of Concrete Delamination. Presenter: B. Huang	Overview of assessment for bridges affected by HS2 tunnelling, UK. Presenter: J. Tsekhanskiy
	Selection of NDT/PDT Locations in a Box Culvert using Value of Information. Presenter: S. Ghosh	Enhancing Structural Performance Prediction through Bayesian Updating with Considering Load and Speed Uncertainty. Presenter: F. Shaker	Fabrication Aspects of Redundancy. Presenter: R. Medlock	Recommendations for structural assessment of RC slabs using the finite element method. Presenter: M. Plos	Expediting the bridge management practice: a Structural Reliability-based method. Presenter: F. Brighenti	PC-PINNs: Physics-informed neural networks for solving the phase-field model of pitting corrosion. Presenter: N. Chen	Evaluation of Low-Cost Adaptable Reliable Accelerometer (LARA) technology. Presenter: E. Delgado	Fatigue Effect of Welded Gusset Plate in Steel-concrete Composite Bridge. Presenter: Y. Wang	Crowdsensing and Indirect Structural Health Monitoring in HE FUTURAL. Presenter: D. Garcia-Sanchez	Structural Health Monitoring of the 1915 Çanakkale Bridge in Turkey, the largest monitoring system for the longest suspension bridge in the world. Presenter: S. Joye	Comparison of modal parametric and nonparametric vibration-based techniques. Presenter: A. Dia
		Utilizing bWIM-data to Calibrate New Traffic Load Models on Embankment. Presenter: A. O'Connor	UHPC Beam End Encasement for the Design of Maintenance-Free Steel Bridges. Presenter: B. Lassy	Behaviour and Management of Pre-tensioned Girder Halving Joints. Presenter: C. Lin	Development of a bridge rating tool for optimised multihazard life-cycle-based maintenance. Presenter: M. Caló	Elastic-plastic bearing capacity simulation of steel-concrete composite bridge tower. Presenter: Y. Wang	Performance comparison between several SHM solutions: a viaduct of the Italian highway. Presenter: M. Ciano	Evaluation of Fatigue Environment in Welded Parts of Orthotropic Steel Deck. Presenter: K. Yoshida	SHM for railway bridges: real time analysis of the train transit and thermal data. Presenter: G. Ascari	The knowledge process for the structural assessment of existing concrete bridges with post-tensioned cables: application to a case study. Presenter: A. Natali	Limits of Digital Twin Modelling. Presenter: A. Strauss
12:00-13:00	Lunch										
13:00-14:30	MS 10	MS 13	SS 33	SS 10	SS 29	MS 01	SS 09	SS 15	SS 07	SS 23	MS 08
	Application of probabilistic techniques for the assessment and performance prediction of corroding concrete bridges Chairs: B. Belletti and J.R. Casas	Bridge Loading – Measurement and Modelling Chairs: C. Caprani and E. O'Brien	Sustainability in bridge design, operation and maintenance Chairs: M.H. Faber and P. Linneberg	Artificial Intelligence for uncertainty, risk, and reliability assessment of Bridge infrastructure Chairs: D. Choe and M. Roohi	Risk-based assessment and prioritization of bridge stocks Chairs: N. Scattarreggia and R. Monteiro	Prediction and Extension of the Service Duration of Bridges Chairs: A. Miyamoto and A. Yabe	New Concepts and Approaches in Bridge Management – BIM Based Bridge Management, Artificial Intelligence, and other New Concepts Influencing Future BMS. Chairs: R. Hajdin and B. Bektas	Steel Bridge Rehabilitation Chairs: M. Sakano	Vehicle-Based Sensing Solutions for Indirect Bridge Condition Monitoring Chairs: R. Corbally and S.R. Lorenzen	Structural Health Diagnosis Under Limited Supervision for Large Bridges Chairs: Y. Xu	Sustainable and efficient monitoring and digitization-based decision-making models Chairs: A. Strauss and D. Novak

	Bayesian-updated POD of UT in the inspection of PT bridges. Presenter: <i>I. Mazzatura</i>	Torsion effects in Super-T Girder Grillage Analysis. Presenter: <i>J. W. Ngan</i>	Life-Cycle Assessment of RC Trough Bridges in Sweden and Colombia: A Comparative Study. Presenter: <i>S. Leiva-Maldonado</i>	A Chain-Based Construction Method for Bridges Monitored within One Cluster. Presenter: <i>K. Wang</i>	Enhancing Bridge Monitoring Through Supervised Anomaly Classification. Presenter: <i>I. Bayane</i>	A review of the durability of concrete wet joints under the loading and corrosion. Presenter: <i>Y. Wang</i>	Digital twin, BIM and Bridge Management Systems implementation. Presenter: <i>E. Spallarossa</i>	A Study of the Effect of Skew Angle on Natural Frequencies of Bridge Girders. Presenter: <i>R. Handa</i>	Indirect bridge condition monitoring using feature selection strategy. Presenter: <i>R. Corbally</i>	Big model for structural health diagnosis by cross-modal learning. Presenter: <i>Y. Xu</i>	Vehicle impacts on reinforced concrete railway bridges. Presenter: <i>A. Strauss</i>
	Assessment of a 60-Year-old Corroded Concrete Girder Through Finite-Element Analysis. Presenter: <i>L. Soto</i>	Reliability Calibration of Load Factors for the Australian Rail Traffic Load Model. Presenter: <i>C. Caprani</i>	Reducing the climate impact (GWP) from bridges in a Danish highway project. Presenter: <i>J. Olesen</i>	Deep Learning of Smart Aggregate's Impedance Signal for Damage Monitoring. Presenter: <i>J.-T. Kim</i>	Reshaping Bridge Inspection with AI, 3D tools and BIM: Outcomes from an R&D Initiative. Presenter: <i>S. Costa</i>	Sensitivity analysis on the fatigue factors for Fatigue reliability evaluation. Presenter: <i>M. Z. Mili</i>	Establishing Data-Driven Life Cycle Benefits of Bridge Maintenance. Presenter: <i>B. Bektas</i>	The application of abrasive water-jet treatment on severely corroded weathering steel bridge. Presenter: <i>Y. Toyota</i>	Crowd-Sensing Drive-by Monitoring for Bridge Frequency Identification. Presenter: <i>Z. Li</i>	Large vision model-based crack segmentation under limited supervision. Presenter: <i>Y. Guo</i>	Advanced modelling methods of the Jauntal railway bridge. Presenter: <i>D. Novák</i>
	Analysis for the bridge fatigue failure and weight limit using the probabilistic machine learning method. Presenter: <i>W. Yan</i>	Probabilistic Updating of Characteristic Train Load for the Little Belt Bridge anno 1935. Presenter: <i>J.H. Roldsgaard</i>	On CO2 efficiency and trade-offs between safety and sustainability in concrete bridge management. Presenter: <i>M. Liu</i>	Neural Network-Based Connectivity Reliability Analysis for Bridge Networks. Presenter: <i>S. Li</i>	A quantitative methodology for risk-based priority ranking of deteriorated bridges: application to a bridge stock. Presenter: <i>N. Scattarreggia</i>	Structural analysis of dapped-end beams through machine learning techniques. Presenter: <i>V. Picciano</i>	Sensitivity Analysis of Bridge Structural Vulnerability Class based on Italian Guidelines. Presenter: <i>S. Bianchi</i>	Analytical study on stress concentration zone of aseismic reinforced deck type arch bidge. Presenter: <i>M. Ouchi</i>	Bridge low-frequency displacement estimation using bridge acceleration for a VBI system. Presenter: <i>X. Lu</i>	Vibration-based fatigue assessment and damage detection in bridge cables. Presenter: <i>B. Xu</i>	Generation of digital twins for bridges of medium spans - Schwindegg Bridge pilot project. Presenter: <i>J. Wimmer</i>
	Stationary Proposal Importance Sampling for structural reliability of aging RC bridges. Presenter: <i>L. Capacci</i>	Influence of the correlation of GVWs in the simulation of vehicle spatial distribution of extreme effects in long-span bridges. Presenter: <i>X. Wang</i>	Static behavior of steel-concrete bridge under pier girder consolidation. Presenter: <i>W. Xie</i>	Forward UQ based on Bayes-informed mixture distribution. Presenter: <i>Y. Dong</i>	An index-based method for risk assessment of existing bridges subjected to multiple hazard. Presenter: <i>L. A. Grieco</i>	Assessment of the efficiency of the base-isolation for a bridge structure. Presenter: <i>T. Zhelyazov</i>	Automated construction of BIM models from point clouds to digitalise bridge assets. Presenter: <i>R. Hajdin and L. Rakic</i>	Rehabilitation Methodology of a Corroded Steel-Riveted Highway Bridge in an Urban Setting. Presenter: <i>I. Netzer</i>	Automated Analysis of Drive-by Monitoring Data. Presenter: <i>J. Brötzmann</i>	Monitoring to secure the Ile-de-Ré Viaduct France. Presenter: <i>S. Joye</i>	Condition Assessment of Mechanical Fasteners by Use of Smart Bolts. Presenter: <i>A. Strauss</i>
		PyBTLS: A Python package for traffic load simulation on short-to-medium bridges. Presenter: <i>C. Caprani</i>	Fatigue Design of Continuous Thermite-welded Rail. Presenter: <i>Y. C. Park</i>	Connectivity Analysis of Transportation Networks Incorporating Bridges and Pavements under Uncertainty. Presenter: <i>J. Xin</i>	The Italian Guidelines for Risk and Safety evaluation of Existing Bridges: a Case Study. Presenter: <i>N. Spinella</i>	Fracture toughness of structural steel in Swedish bridges. Presenter: <i>M. Ablahad</i>	Leveraging Digital Twin Tools for the Minnesota DOT Robert Street Bridge Inspection. Presenter: <i>B. Lovelace and B. Aryal</i>	Study on Fatigue Detection of Weld Toe in Orthotropic Steel Deck. Presenter: <i>R. Harashima</i>	OMA-driven structural assessment to prevent fatigue-induced failure in steel bridges. Presenter: <i>G. Du</i>		

14:30-14:45	Coffee Break										
14:45-15:15	Keynote Speaker: <i>Chairs: Necati Catbas and Tulio Bittencourt</i> Thermo-mechanistic approach for evaluating service life of bridges and structural concrete. Presenter: C. Fujiyama										
15:15-15:30	Break										
15:30-17:00	GS 17	GS 25	MS 03	SS 10		GS 07	SS 43	SS 15	SS 07	GS 28	GS 19
	BRIDGE SAFETY - Advanced computer simulation Chairs: D. Novak and B. Imam	BRIDGE SAFETY - Extreme loads Chairs: A. Chen and A. O'Connor	Life-Cycle Performance Assessment of existing bridges in an Aggressive environment Chairs: M. Akiyama and H. Matsuzaki	Artificial Intelligence for un- certainty, risk, and reliability assess- ment of Bridge infrastructure Chairs: R.M. Ellis and R. Hajdin		BRIDGE MAINTENANCE - Non-destructive testing Chairs: B. Täljsten and A. Anzlin	Responding to Structural Emergencies: Post-Event inspec- tion to restoring the Structure to full service Chairs: S. Alampalli	Steel Bridge Rehabilitation Chairs: M. Sakano	Vehicle-Based Sensing Solutions for Indirect Bridge Condition Moni- toring Chairs: R. Corbally and S.R. Lorenzen	BRIDGE SAFETY - Safety and serviceability Chairs: F. Biondini and A. Strauss	BRIDGE SAFETY - Assessment and evaluation (5) Chairs: J. R. Casas and D. Lehky
	Simulation of cylinder impact damage by Peridynamics. Presenter: J. Zhang	Seismic design of cable-stayed bridges in high intensity areas. Presenter: B. Li	Probabilistic assessment of corrosion initiation in RC structures under chloride attack. Presenter: G. Vieira	U-Net mod- el-based XCT im- ages segmentation for steel corrosion in concrete. Presenter: M. Zhang		Ground Penetrating Radar (GPR) for bridge inspection. Presenter: N. Roumia	A Plan for Assessing the Damage to Highway Bridges After an Earthquake. Presenter: S. Alampalli	Fatigue Crack Detection in Out- of-Plane Gussets Using Crack Detection Sensor. Presenter: K. Sunada	Fleet monitoring using a Bayesian approach to detect bridge bearing damage. Presenter: E.J. O'Brien	A 2D TBI model to study lateral dy- namics after ship impact event. Presenter: L. Bernardini	Design Curves for Masonry Arch Bridges Over Rivers in the UK. Presenter: Junzheng Liu
	Analytical Evaluation of DBTT in Charpy Impact Test for Structural Steels. Presenter: H. Tamura	A coupled thermal-mechan- ical-phase field model for concrete under fire. Presenter: K. Miao	Why is main- tenance and management of rails so important to railway bridges. Presenter: J. Wuorenjuuri	Fragility Interval Predictions in Non-seismically Designed Bridges. Presenter: J. Ghosh		Advancements in Bridges NDT: National Highways' "Structures Moonshot" – Paper No. 1. Presenter: T. Argyle	Rapid Response for Ensuring Safety Following Bridge Hits. Presenter: S. Alampalli	Fatigue crack monitoring by measuring strain without loading. Presenter: T. Ishikawa	Deep- autoencoder-based drive-by methodology for high-speed railway bridge damage detection. Presenter: T. Nogueira Bittencourt	Energy absorption of bolted connec- tion up to tensile ultimate state. Presenter: T. Takai	Identification of governing structural safety criterion for existing bridges considering costs, occupancy and conditional fatality probability. Presenter: F. Liljefors
	Structural Behavior of Steel Truss Girder with Thick Concrete Deck in Cable-Stayed Bridge. Presenter: H. Liu	Modelling of thermo-mechan- ical behaviour of tunnels under fire conditions. Presenter: R. Diaz	Retrofit of PRC bridges by external post-tension under different corrosion scenarios. Presenter: G. Santarsiero	Damage evaluation of steel columns using vibration testing and trans- fer learning. Presenter: K. Watanabe		Advancements in Bridges NDT: National Highways' "Structures Moonshot" – Paper No. 2. Presenter: T. Argyle	Critical role of the bridges ensuring emergency services and disaster recovery in Turkey. Presenter: N. Memisoglu Apaydin	Mechanical properties of steel tube with partially bonded CFRP. Presenter: Y. Maeda	Indirect continuous monitoring of bridge transitions using the CTM 2.0. Presenter: M. M. Rupp	Evaluation of the effectiveness of Geotechnical Seismic Isolation for rocking piers. Presenter: A. Contento	A review of design and assessment methods for skew concrete slabs. Presenter: A. Lipari

	Reasonable degree of shear connection for Thick Concrete Deck in Cable-Stayed Bridge. Presenter: <i>H. Liu</i>	Optimization of link beams in a double-column tall pier bent under earthquakes. Presenter: <i>X. Chen</i>	Life-cycle Environmental Impact Assessment of Bridge Designs Considering Maintenance Strategy. Presenter: <i>S. H. Lee</i>	Probabilistic modeling of bridge deterioration due to earthquakes. Presenter: <i>L. Iannacone</i>		Advancements in Structural Health Monitoring (SHM): Deformation Area Difference (DAD) Method and Model Updating. Presenter: <i>T. Čamo</i>	Human-centered Post-disaster Inspection of Infrastructure using Augmented Reality. Presenter: <i>F. Moreu</i>	Estimation of elastic buckling loads of defective steel plate repaired with CFRP. Presenter: <i>M. Mizutani</i>	Drive-by Monitoring to Assess Railway Bridge Accelerations. Presenter: <i>S. R. Lorenzen</i>	Flexural behavior of concrete- steel composite girders with tubular flanges. Presenter: <i>Y. Wang</i>	Comparison of partial factor methods for existing concrete structures: Application to a cable-stayed bridge. Presenter: <i>N. Makhoul</i>
		An unconventional Barrier Design. Presenter: <i>Z. Kamranian</i>	Damage assessment and expert system for the repair of ageing reinforced concrete Components. Presenter: <i>F. Binder</i>	A Data-driven Approach for Quantifying Reliability and Resilience of Transportation Network. Presenter: <i>M. Roohi</i>		A study on hammering inspection for unreinforced concrete based on wearable microphone measurement. Presenter: <i>K. Takeya</i>	Condition Assessment and Repair Protocols for Dynamically Impacted Bridge Girders. Presenter: <i>W. Zatar</i>	Fatigue Retrofit using TRS for Trough Rib - Crossbeam Connections in Orthotropic Decks. Presenter: <i>M. Sakano</i>	Empirical Study on Smartphone-Vehicle Trip Metadata and Bridge Modal Property Estimates. Presenter: <i>T. Matarazzo</i>	Flexural behavior of high strength steel-UHPFRC composite girders. Presenter: <i>J. Li</i>	
17:00-17:10	Break										
17:10-17:40	Closing Ceremony										