Submission Id	Title	Topic	Authors	Presenting	SESSION
7	Inspection and retrofitting of Danube bridge - Ruse-Giurgiu - challenges and innovative approaches	2 - Regeneration, rehabilitation and adaptation of existing structures	**Alexander Jiponov**	**Alexander Jiponov**	C1
9	Investigation into the cause of cracks and the opportunity to refurbish steel Vierendeel railway bridges	2 - Regeneration, rehabilitation and adaptation of existing structures	Philippe Van Bogaert, **Hans De Backer**, Bart De Pauw	**Hans De Backer**	C3
10	The effect of horizontal loads caused by rapidly rising river water on the bearing capacity of masonry arch bridges	3 - Designing for longevity, resilience and extreme events	Philippe Van Bogaert, **Hans De Backer**	**Hans De Backer**	A1
14	Stainless steel as a structural material in the drive toward net-zero bridges	1 - Designing and building for net zero	**Andrew Backhouse**, Nancy Baddoo	**Andrew Backhouse**	D9
15	Influence of CO2 Emission Pricing on the Degree of Reuse in Building Projects	4 - Reducing waste - productivity, efficiency and resource economy	**Lars Magnus Knutstadmarka Johnsen**, Sigurd Lundberg O	**Lars Magnus Knutstadmarka Johnsen**	A3
17	A Case Study on the Analysis and Rehabilitation of an Existing Through Arch Truss Bridge	2 - Regeneration, rehabilitation and adaptation of existing structures	Dillon Betts, **Aaron Ferguson**, Jorge Perez Armino, Will Cro	**Aaron Ferguson**	C3
21	Productivity increase in the design and construction of bridges	4 - Reducing waste - productivity, efficiency and resource economy	**Johan Lagerkvist**, Ola Lædre, Petra Bosch-Sijtsema, Fredri	**Johan Lagerkvist**	A9
22	New Precast Segmental High-Speedy Railway Bridges from Lianyungang to Xuzhou: Donghai Viaduct and Daxu Viaduct	4 - Reducing waste - productivity, efficiency and resource economy	**Chongju Peng**, Binyi Dai, Wenbin Lei	**Chongju Peng**	A7
23	Design and detailing of durable and sustainable Post-Tensioning structures with polymer ducts according to fib bulletin no. 75	3 - Designing for longevity, resilience and extreme events	**Klaus Lanzinger**, Larry Krauser	**Klaus Lanzinger**	D8
25	Effect of column studs on column-pile joints in buildings without underground beams	5 - Smart Structures - designing responsive, adaptive & progressive solutions	**Keisuke Watanabe**	**Keisuke Watanabe**	D5
26	The New Pooley Bridge - Reconnecting a Community	3 - Designing for longevity, resilience and extreme events	Héctor Beade-Pereda, **Laura Langridge**	**Laura Langridge**	A2
27	Reuse of cast-in-place concrete slabs in new structures	1 - Designing and building for net zero	Lukas Felber, **Matthias Dietz**, Ingo Müllers, Markus Nöldgen	**Matthias Dietz**	B4
28	Tensile strength of column-pile joints when using anchor plates	2 - Regeneration, rehabilitation and adaptation of existing structures	**Tokuo Shimozono**, Keisuke Watanabe, Kei Haraguchi, Taku	**Tokuo Shimozono**	C5
29	Estimation of Construction Year of Short to Medium Road Bridges in Zambia using Satellite Imagery	2 - Regeneration, rehabilitation and adaptation of existing structures	**Bennie Hamunzala**, Koji Matsumoto	**Bennie Hamunzala**	C2
32	Effect of Topology Optimization Parameters on Additively Manufactured Space Frame Nodes	4 - Reducing waste - productivity, efficiency and resource economy	**Luke Farrugia**, Jeanette Muñoz Abela	**Luke Farrugia**	A3
33	Analysing embodied carbon for rural trail bridges in East Africa	1 - Designing and building for net zero	Nicola Turrini, Miriam Graham, Faustin Bajeneza, **Lucy Crye**	**Lucy Cryer**	B6
34	Efforts of Seismic Retrofit : The Future Challenge of Innoshima Bridge Beyond 40 Years of Service	3 - Designing for longevity, resilience and extreme events	**Hongxin Wang**, Takao Kaneda, Masahiro Nishitani, Yasuaki	**Hongxin Wang**	A1
36	Development of cold-bonded lightweight concrete aggregates using biowaste	4 - Reducing waste - productivity, efficiency and resource economy	**Daia Zwicky**, Julien Ston	**Daia Zwicky**	A3
37	Proposal for cable replacement method incorporating arch structure in aging cable-stayed bridges	2 - Regeneration, rehabilitation and adaptation of existing structures	**Kazuhiro Miyachi**, Masato Tonegawa, Shota Nagasawa	**Kazuhiro Miyachi**	C1
39	Bracklinn Falls Footbridge: Efficient Modular Design	1 - Designing and building for net zero	**David Knight**, Keith Brownlie, James Marks	**David Knight**	B3
40	Management of Corrosion Damage in Locked Coil Cables of the Galecopper Bridge: Case Study, Detection, Assessment, and Strengthening	2 - Regeneration, rehabilitation and adaptation of existing structures	**Janwillem Breider**, Charlotte Murphy, Richard Hornby	**Janwillem Breider**	C6
41	Fabrication's role in a world in emergency: reducing environmental impact by collaboration	1 - Designing and building for net zero	**David Knight**, Thomas Dutton, Dewi Uridge, Keefer Erickson	**David Knight**	B6
42	Advancements in Shear Resistance Prediction for Concrete Beams: A New Shear Model	3 - Designing for longevity, resilience and extreme events	Ke Hu, **Xiangyong Duanmu**, Dong Xu	**Dong Xu**	A6
43	Unified Explanation of Cracks for Long-Span Prestressed Concrete Box Girder Bridge Using Spatial Lattice Grid Model	2 - Regeneration, rehabilitation and adaptation of existing structures	Hao Zhang, Wei Dou, **Dong Xu**, Qinlong Jia	**Dong Xu**	C1
44	Data-driven and Production-oriented Tendering Design using Artificial Intelligence	6 - The essential value of competence, professionalism and ethics	**Linda Cusumano**, Rasmus Rempling, Robert Jockwer, Nilla	**Linda Cusumano**	B1
45	Reconstruction of a Ukrainian road bridge by use of 3D printed minimass™ beams	1 - Designing and building for net zero	**Andy Coward**, Torben Forsberg	**Andy Coward**	D4
46	Rehabilitation of the flood damaged Mhlali River Bridge and adaptation for improved resilience to extreme weather events	3 - Designing for longevity, resilience and extreme events	**Mohamed Parak**, Kerusha Ayer	**Mohamed Parak**	C8
47	Two-dimensional transient thermal analysis of drilled-pile wall exposed to extreme temperatures and discussion on frost mitigation methods.	3 - Designing for longevity, resilience and extreme events	Santeri Tammi, **Summer Shahzad**, Eero Särkkä, Mikko Hyyn	**Summer Shahzad**	A4
48	River Lea Crossing Refurbishment & Strengthening: A case study for refurbishment of an historic bridge	2 - Regeneration, rehabilitation and adaptation of existing structures	**Michael Duvall**, Andrew Hodgkinson	**Michael Duvall**	C3
49	Potential in the structural application of GFRP bars as an alternative reinforcement for recycled aggregate concrete slabs	4 - Reducing waste - productivity, efficiency and resource economy	Marina Traykova, Roumiana Zaharieva, **Irina Kerelezova**	**Irina Kerelezova**	A7
52	Hidden defects risk assessment at the Humber Bridge	2 - Regeneration, rehabilitation and adaptation of existing structures	**John Collins**, Peter Campbell, James Barnes	**John Collins**	C3
53	Humber Bridge side span rocker bearings replacement	2 - Regeneration, rehabilitation and adaptation of existing structures	**John Collins**, Peter Campbell, Mark Bulmer, James Barnes	**John Collins**	C6
54	A New Method for Calculating the Shear Stiffness of RC Beams with Web Diagonal Cracks	3 - Designing for longevity, resilience and extreme events	Wei Dou, Shengbin Wang, Yongxue Jin, **Dong Xu**	**Dong Xu**	A4
55	Extradosed Bridge Part of the Third Ring Road of Mecca - Conceptual Design	5 - Smart Structures - designing responsive, adaptive & progressive solutions	**Fernando Sima**, Mike Schlaich, Maher Youakim, Essam Ayo	**Fernando Sima**	D3
57	Unlocking Modularity Benefits with the Use of Precast Segmental Technology	4 - Reducing waste - productivity, efficiency and resource economy	**Martin Rettinger**, Sofia Moissiadis, Alex Hückler, Mike Schla	**Martin Rettinger**	D6
58	Strain Distributions for Shotcrete Failure in Hard Rock Tunnels	2 - Regeneration, rehabilitation and adaptation of existing structures	**August Jansson**, Ignasi Fernandez, Carlos Gil Berrocal, Ra	**August Jansson**	C5
61	Composite Effects Between Steel Girder and Orthotropic Steel Deck Connected by Shear Force Transferring Members During Deck Replacement Work	2 - Regeneration, rehabilitation and adaptation of existing structures	**Sayuri Kitaichi**, Mitsuru Shiratori, Kazusa Morikawa, Masaka	**Sayuri Kitaichi**	C3
64	Development and validation of a train-bridge interaction model	5 - Smart Structures - designing responsive, adaptive & progressive solutions	**Sharon Deceuninck**, Hans De Backer	**Sharon Deceuninck**	D1
65	Evaluation of the behaviour of old beam-plate bridges	2 - Regeneration, rehabilitation and adaptation of existing structures	Hans De Backer, Amelie Outtier, **Muhammad Farjad Sami**	**Muhammad Farjad Sami**	C1
68	An Anti-corrosion Method for Concrete Slab with Cathodic Protection	2 - Regeneration, rehabilitation and adaptation of existing structures	**Eri Suzue**	**Eri Suzue**	C5
72	Assessing the carbon footprint of bridges and a strategy to deliver carbon reductions	1 - Designing and building for net zero	**Philip Chalk**, Joe Stevenson	**Philip Chalk**	B4
75	Teaching Reuse of Existing Structures at the University of Sheffield	2 - Regeneration, rehabilitation and adaptation of existing structures	Richard Harpin, **Jon Carr**	**John Carr**	B9
77	Bridge Rehabilitation with Thermal Spray Zinc Coatings	2 - Regeneration, rehabilitation and adaptation of existing structures	**Martin Gagné**, Martin van Leeuwen, Bernardo Duran	**Martin Gagné**	B8
79	Load Bearing Behavior of 3D Printed Prestressed Segmental Concrete Girders	1 - Designing and building for net zero	**Marc-Patrick Pfleger**, Elisabeth Radl, Osman Esebali, Mark	**Marc-Patrick Pfleger**	B6
81	System reliability accounting for corrosion-induced degradation over time	2 - Regeneration, rehabilitation and adaptation of existing structures	**Simone Celati**, Agnese Natali, Walter Salvatore, Sebastian	**Simone Celati**	C4
82	Specimen Design and Advanced Material Testing for 3D Printing Concretes	1 - Designing and building for net zero	Elisabeth Radl, **Marc-Patrick Pfleger**, Julian Karolyi, Markus	**Marc-Patrick Pfleger**	B1
84	Advanced steel solutions for a sustainable and economic bridge infrastructure	1 - Designing and building for net zero	**Mike Tibolt**, Wojciech Ochojski	**Mike Tibolt**	D9
85	Tests of stainless steel circular tubular stub columns with seawater sea-sand concrete infill	4 - Reducing waste - productivity, efficiency and resource economy	**Yancheng Cai**, Albert K.H. Kwan	**Yancheng Cai**	D6
86	As bridge engineers, are we designing efficient structures?	1 - Designing and building for net zero	**Gareth Davies**	**Gareth Davies**	B4
87	Optimising material use and pedestrian comfort in the design of a hybrid steel-FRP bridge	4 - Reducing waste - productivity, efficiency and resource economy	**Rik van Schaik**, Kees van IJselmuijden, Lieuwe Cornelissen	**Rik van Schaik**	A7
88	Enhancing Root-Deck Crack Detection in Orthotropic Steel Decks through Numerical Investigation of Eddy Current Techniques	2 - Regeneration, rehabilitation and adaptation of existing structures	**Nitipong Praphaphankul**, Ayako Akutsu, Eiichi Sasaki	**Nitipong Praphaphankul**	C5
90	Bristol Temple Meads Railway Station roof refurbishment project	2 - Regeneration, rehabilitation and adaptation of existing structures	Peter Chong, Stephen Wren, **Gabor Galyasz**, Duncan Wools	**Gabor Galyasz**	C4
92	Flo:Re – A new floor system made of reused concrete and steel elements	4 - Reducing waste - productivity, efficiency and resource economy	**Numa Bertola**, Célia Küpfer, Maléna Bastien Masse, Corenti	**Numa Bertola**	A8
96	Shifting the Density Discourse: the Future of Soft Density	1 - Designing and building for net zero	**Audrey-Frédérique Lavoie**, Kyriaki Galopoulou, Zehra Lara	**Audrey-Frédérique Lavoie**	B1
97	Numerical Study on Square Large Sectional Concrete-Filled Steel Tubular Column with Separating Cross Steel Plate under Lateral Force in Different Direction	5 - Smart Structures - designing responsive, adaptive & progressive solutions	**Wencong Li**	**Wencong Li**	D3
99	ElevArch® Masonry arch bridge jacking technique to save historic structures	2 - Regeneration, rehabilitation and adaptation of existing structures	**Kevin Bennett**, Hamish Harvey	**Kevin Bennett**	B8
101	Creating an extra floor space to an iconic building in the centre of London	2 - Regeneration, rehabilitation and adaptation of existing structures	**Marco Rubeo**, Mike Mollentze, Dan Harkin	**Marco Rubeo**	C4
102	Towards Cyber-Secure and Hazard-Resilient Smart Civil Structures	5 - Smart Structures - designing responsive, adaptive & progressive solutions	**Miguel Cid Montoya**, Carlos E. Rubio-Medrano, Ahsan Kare	**Miguel Cid Montoya**	D1
104	Experimental bending tests on filler beam section with SFRC	3 - Designing for longevity, resilience and extreme events	**Riccardo Zanon**, Markus Schäfer, Gonzalo Ruiz, Angel De l	**Riccardo Zanon**	C8

105	Neural Network Dynamic Metamodels for a Highly Detailed Cable-Stayed Bridge Finite Element Model	2 - Regeneration, rehabilitation and adaptation of existing structures	**Koravith Tiprak**, Kouichi Takeya, Eiichi Sasaki	**Koravith Tiprak**	B8
106	Weldability and post-welding fatigue strength of older railway bridges	2 - Regeneration, rehabilitation and adaptation of existing structures	**Takahiro Hirano**, Daisuke Uchida, Takanori Murakami, Masa	**Takahiro Hirano**	B8
109	FLOW Bridge - A modular FRP footbridge designed through an innovative procurement process	4 - Reducing waste - productivity, efficiency and resource economy	Davide Meucci, **Tom Osborne**	**Tom Osborne**	D6
112	Experimental Study of Compressive Strength of CFRP Reinforced Steel Columns	2 - Regeneration, rehabilitation and adaptation of existing structures	Takeshi Miyashita, Yuya Hidekuma, Kazuo Ohgaki, Masafum	**Syunta Sakurai**	B8
117	Climate Resilience of Long-Span Bridges through Early Stage Aerodynamic and Climate Consulting	3 - Designing for longevity, resilience and extreme events	**David Hamlyn**, Tung Nguyen	**David Hamlyn**	C9
119	Patch Plate Strengthening of Steel Box Member by Frictional High-Strength Bolts/Studs	2 - Regeneration, rehabilitation and adaptation of existing structures	**Hina Ishiguro**, Takashi Yamaguchi, Yuta Yamamoto, Keito S	**Hina Ishiguro**	C5
121	A new era of a more durable and reliable segmental post-tensioned construction	3 - Designing for longevity, resilience and extreme events	**Emil Delport**, Nuno Geirinhas	**Matthew Dronfield**	C8
122	Bridge hangers as cruciform sections – Advantages and behaviour under wind loading	3 - Designing for longevity, resilience and extreme events	**Miguel Candeias**, Riccardo Zanon, Jacques Berthellemy	**Miguel Candeias**	C9
123	Low carbon concrete used in the Uithoornlijn	1 - Designing and building for net zero	**Michaël Menting**, Roy van de Bilt	**Michaël Menting**	B4
124	Environmentally conscious structural design and material selection of short-span bridges	4 - Reducing waste - productivity, efficiency and resource economy	**Ákos Kővári**, Gábor Németh, Róbert Bartus	**Ákos Kővári**	D9
125	Life-cycle analysis of the Colne Valley Viaduct being delivered by the Align JV as Part of HS2 Phase One in the UK	1 - Designing and building for net zero	Mathis Kominiarz, **Zeina Al-Nabulsi**	**Zeina Al-Nabulsi**	B3
126	The impact on structural embodied carbon of using loads obtained from wind tunnel testing vs code based loads	1 - Designing and building for net zero	**Tung Nguyen**, Fabio Faseli, Pietro Manica, John Kilpatrick	**Tung Nguyen**	D9
127	A Finnish Case Study of U-Trough Underpasses in high water table conditions for Gravity vs Anchored Structural System	3 - Designing for longevity, resilience and extreme events	**Manish Mehta**, Yatharth Mathur, Raul Vibo	**Manish Mehta**	D8
128	Effect of Initial Web Out-of-Flatness Imperfections on the Shear Strength of Low-Frequency Sinusoidal Plate Girders	5 - Smart Structures - designing responsive, adaptive & progressive solutions	**Parfait Masungi**, Maria Garlock, Spencer Quiel	**Parfait Masungi**	D1
133	The use of modular construction and component-based design to minimise waste and maximise efficiencies	4 - Reducing waste - productivity, efficiency and resource economy	**John Armitage**, Philip Robinson, Musa Chunge	**John Armitage**	A8
134	Ethical challenges and greenwashing – challenges for structural engineers	6 - The essential value of competence, professionalism and ethics	**John Armitage**	**John Armitage**	B1
135	Nonlinear aerostatic stability of a curved 275-m span suspension footbridge between Spain and Portugal	3 - Designing for longevity, resilience and extreme events	**Miguel Cid Montoya**, Juan Quintela, Santiago Hernández, J	**Miguel Cid Montoya**	A2
136	Strategies for Saving the Existing Infrastructure in Germany	2 - Regeneration, rehabilitation and adaptation of existing structures	**Ioannis Retzepis**	**Ioannis Retzepis**	C6
137	From the Drone to the BIM-Model - A Method for Creating As-Is Models in Bridge Construction for the Use Case of Digital Bridge Inspection	2 - Regeneration, rehabilitation and adaptation of existing structures	Johannes Krasa, **Sebastian Baumgartner**, Markus Vill	**Sebastian Baumgartner**	C6
140	Damage characterisation using Sentinel-1 images: Case study of bridges in Ukraine	2 - Regeneration, rehabilitation and adaptation of existing structures	**Nadiia Kopiika**, Jelena Ninic, Stergios Mitoulis	**Nadiia Kopiika**	D2
141	Development of novel engineering solutions for incremental launching of bridges on low-friction materials: case studies of Nowra and Sydney Gateway bridges in Australia	4 - Reducing waste - productivity, efficiency and resource economy	**Michal Ambor**, Nikolaj Pedersen, Laura Farina, Mauro Sarto	**Michal Ambor**	D6
142	Properties of Cementitious Materials with Reclaimed Cement	4 - Reducing waste - productivity, efficiency and resource economy	Alyssa Sunga, **Shahriar Abubakri**, Gilson Lomboy, Islam Ma	**Shahriar Abubakri**	A3
143	Topology Optimization Based Additive Construction for Sustainability	1 - Designing and building for net zero	Islam Mantawy, **Jenna Migliorino**, Anthony Mackin, Aly Ahm	**Jenna Migliorino**	D4
144	Additively Constructed Seismically Protected System for Bridge Infrastructure	5 - Smart Structures - designing responsive, adaptive & progressive solutions	Islam Mantawy, **Anthony Mackin**, Jenna Migliorino, Hamdy F	**Anthony Mackin**	D1
145	Additive Manufacturing Techniques for Repairable Braced Frames	3 - Designing for longevity, resilience and extreme events	Hamdy Farhoud, **Islam Mantawy**	**Islam Mantawy**	A5
146	Predicting Fractures in Reinforcing Steel Bars: A Low Cycle Fatigue CNN Approach	3 - Designing for longevity, resilience and extreme events	**Islam Mantawy**, Naga Ravuri	**Islam Mantawy**	A4
150	Shake Table Studies of Precast Bridge Columns with Lap Splice Connections by UHPC	3 - Designing for longevity, resilience and extreme events	**Jianfeng Gao**, Biao Ma, Jianzhong Li	**Jianfeng Gao**	D8
152	Super-Low-Carbon Footbridge Design	1 - Designing and building for net zero	**Ben Curry**, Ben Addy, Ezra Groskin, Callum Fleming	**Ben Curry**	B6
154	Ultimate Shear Strength of Welded Stainless and Carbon Steel Girders	3 - Designing for longevity, resilience and extreme events	**Kentaro Kato**, Takeshi Miyashita, Hironori Ishii, Yoichi Yuki,	**Kentaro Kato**	A4
156	Developing computational design techniques to meet the increasing demand for more complex and sustainable bridges in Southeast Asia.	5 - Smart Structures - designing responsive, adaptive & progressive solutions	**Mike Tapley**	**Mike Tapley**	D1
158	A low carbon bridge over the River Thames, London, UK	1 - Designing and building for net zero	Davood Liaghat, Koon Lok (Stephen) Nip, **Antigoni Chatzida**	**Antigoni Chatzidaki**	B3
159	How to design a low carbon bridge?	1 - Designing and building for net zero	**Tom Osborne**, Enea Latxague, Davood Liaghat, Koon Lok (S	**Tom Osborne**	B3
160	M5 Exe and Exminster Viaducts - Strengthening and Safeguarding	2 - Regeneration, rehabilitation and adaptation of existing structures	**Riccardo Stroscio**, Akram Malik, Frederic Turlier, Mark May	**Riccardo Stroscio**	B9
161	Carbon emissions, net zero, lifespan and circularity interaction strategies	1 - Designing and building for net zero	**David Collings**	**David Collings**	B1
162	Time-dependent analysis of long-span prestressed concrete bridges considering nonlinear creep behavior	3 - Designing for longevity, resilience and extreme events	**Shiyu Wu**, Zhao Liu, Teng Tong	**Shiyu Wu**	A2
163	Soho Loop Cantilever Footbridge	4 - Reducing waste - productivity, efficiency and resource economy	**Ed Dablin**	**Ed Dablin**	A9
164	Overturning Prediction of Freestanding Cylindrical Structures Subjected to Pulse-like Ground Motions	3 - Designing for longevity, resilience and extreme events	**Xun Zhou**, Jianzhong Li	**Xun Zhou**	A6
165	Design of the Bataan-Cavite Interlink Bridge (BCIB) Project in The Philippines	3 - Designing for longevity, resilience and extreme events	**Marwan Nader**, James Duxbury	**Marwan Nader**	C9
169	Structural configuration of negative bending moment zone in continuous MVFT girder bridge	3 - Designing for longevity, resilience and extreme events	**Zhihua Xiong**, Zhenhua Pan, Kevin Wolters, Markus Feldma	**Zhihua Xiong**	C9
170	Fatigue life prediction of orthotropic steel decks based on Phase Field model	2 - Regeneration, rehabilitation and adaptation of existing structures	**Xiong Zhihua**, Xuyao Liu, Di Di, Nils Rittich, Markus Feldmar	**Xiong Zhihua**	C2
172	Re-use of wind turbine steel towers for pedestrian bridges	4 - Reducing waste - productivity, efficiency and resource economy	**Torben Forsberg**, Nils Behrndt Ebbesen, Jesper Henriksen	**Torben Forsberg**	A9
183	Evaluation of Resilience in Displacement Restrain Brace with initial story stiffness and Buckling Restrained Brace	3 - Designing for longevity, resilience and extreme events	**Akine Otani**, Takeshi Asakawa, Haruki Yokoyama	**Akine Otani**	A6
185	Chain reaction failure analysis for tied arch bridges considering cable corrosion	3 - Designing for longevity, resilience and extreme events	**Yukari Aoki**, Mami Kimijima, Humihiko Gotou, Haruki Tsuno	**Yukari Aoki**	D8
192	Structural Assessment of the M6 Bromford Viaduct Against Ground Movements	2 - Regeneration, rehabilitation and adaptation of existing structures	Thomas Wood, **Christos Mitsarakis**, Stuart Moore	**Christos Mitsarakis**	C1
193	Data-driven corrosion risk assessment for structures using ISO 9223	3 - Designing for longevity, resilience and extreme events	**Anders W. B. Skilbred**, Bruna Frydman, Graham Gedge, Se	**Anders W. B. Skilbred**	A5
194	Renewing Short-Span Existing Bridge Decks with CFRP Tendons for Durability	2 - Regeneration, rehabilitation and adaptation of existing structures	**Yuki Onishi**, Kohei Yamaguchi	**Yuki Onishi**	C2
196	Preliminary tests for application of carbon nanotubes and bacillus sphericus bacteria in self-healing cement mortars.	3 - Designing for longevity, resilience and extreme events	**Eryk Goldmann**, Aleksandra Ziembińska-Buczyńska, Marcin	**Eryk Goldmann**	A5
198	Challenging prior decisions relating to existing bridges	2 - Regeneration, rehabilitation and adaptation of existing structures	**Peter Campbell**, John Collins, Joe Kelly	**Peter Campbell**	B9
200	Fast, interactive digital design tools to inform decision making in bridge design	1 - Designing and building for net zero	**Helen Fairclough**, Tom Pritchard, Matthew Gilbert, Ian Firth,	**Helen Fairclough**	D4
201	Experimental and numerical study on the seismic performance of irregularly concrete-filled steel tube column to steel beam joints with inner semi-diaphragm	3 - Designing for longevity, resilience and extreme events	**Wang-Hui Liu**, Yan-Lin Guo	**Wang-Hui Liu**	C8
202	Application of Carbon Fibre Reinforced Polymer Cable in Extradosed Bridge	1 - Designing and building for net zero	**Li Dong**, Peng Feng, Yu Wang	**Li Dong**	D4
203	Strengthening of the A52 Clifton Stage 2 bridge in Nottingham	2 - Regeneration, rehabilitation and adaptation of existing structures	Riccardo Stroscio, **Akram Malik**, Frederic Turlier, Malcolm D	**Akram Malik**	C6
204	Cody Dock Rolling Bridge: infrastructure and place	5 - Smart Structures - designing responsive, adaptive & progressive solutions	Rob Nilsson, Tom Randall-Page, **David Knight**, Giulio Gianni	**David Knight**	D3
207	Global Trends in Bridge Collapse Incidents in 2023: an Analysis of Regional Patterns and Causative Factors	3 - Designing for longevity, resilience and extreme events	**Paul Mullins**	**Paul Mullins**	A1
208	Variable stiffness and damping components for semi-active vibration control and inflatable rigidization	5 - Smart Structures - designing responsive, adaptive & progressive solutions	**Qinyu Wang**, Gennaro Senatore, Kaspar Jansen, Arjan Habi	**Qinyu Wang**	D3
210	An Experimental Study of Self-anchored Combined CFRP Cables	3 - Designing for longevity, resilience and extreme events	**Guozhen Ding**, Chao Wu, Peng Feng	**Guozhen Ding**	C8
214	Sustainable salvation of deficient RC bridges by means of the UHPFRC Technology	2 - Regeneration, rehabilitation and adaptation of existing structures	**Eugen Brühwiler**	**Eugen Brühwiler**	B9
217	Evaluation on a load-carrying capacity of the stiffened plates subjected to biaxial forces considering the local buckling of the longitudinal ribs	5 - Smart Structures - designing responsive, adaptive & progressive solutions	**Kousuke Yasuda**, Takashi Yamaguchi, Seiji Osakabe	**Kousuke Yasuda**	D2
218	Load Transfer Mechanism of Single-sided frictional joints with high strength countersunk head bolts	5 - Smart Structures - designing responsive, adaptive & progressive solutions	**Misato Konishi**, Takashi Yamaguchi, Gen Hayashi, Masayo	**Misato Konishi**	D2
219	Suitability of EN 1317 crash test parameters for determining accidental loads on bridges	3 - Designing for longevity, resilience and extreme events	**Vazul Boros**	**Vazul Boros**	C8
222	Assessment strength and stiffness properties of wood in existing structures	2 - Regeneration, rehabilitation and adaptation of existing structures	Lilita Ozola, **Martins Petersons**	**Martins Petersons**	C4

223	Methodology of a predictive tool for corrosion prediction and risk-based maintenance in reinforced concrete structures.	3 - Designing for longevity, resilience and extreme events	**Paulo Claude**, Frédéric Duprat, Thomas De Larrard, Patrick	**Paulo Claude**	A5
224	Experimental study on the bond-slip relationship between concrete and deformed rebar embedded in grouted corrugated duct	5 - Smart Structures - designing responsive, adaptive & progressive solutions	Xu Wang, **Zhao Liu**, Jiacheng Zheng	**Zhao Liu**	D5
226	Design and construction of the flyover in the intermodal ferry terminal in Świnoujście	4 - Reducing waste - productivity, efficiency and resource economy	**Dawid Wisniewski**, Patryk Stempin, Michal Majka	**Dawid Wisniewski**	A9
227	Heating and Thermal Conductivity Effect Inside High Damping Rubber Bearing at Low Temperature	3 - Designing for longevity, resilience and extreme events	**Jie Shen**, Akira Igarashi, Ji Dang, Yuki Hamada, Takehiko H	**Jie Shen**	A6
229	Sustainability as a key design factor from the structure conception stage	5 - Smart Structures - designing responsive, adaptive & progressive solutions	Ignacio Javier Navarro Martínez, **Jose Maria Lorenzo Rome**	**Jose Maria Lorenzo Romero**	D5
233	Nonlinear analysis of flat slab-column connections with openings close to the column reinforced with UHPFRC under punching shear stress	4 - Reducing waste - productivity, efficiency and resource economy	**Igor Gonçalves**, Orlando Almeida, Leandro Trautwein, Rafae	**Igor Gonçalves**	A8
235	Inspection and complete rehabilitation of the Langebro Bridge in Copenhagen with focus on sustainable solutions	2 - Regeneration, rehabilitation and adaptation of existing structures	**Ulrik Sloth Andersen**, Mette Kristensen, Rasmus Johan Fin	**Ulrik Sloth Andersen**	C2
236	Design and Construction of an Arch Bridge over Railway Line no. 132 in Poland using BIM Tools	3 - Designing for longevity, resilience and extreme events	Michal Majka, Patryk Stempin, **Dawid Wisniewski**	**Dawid Wisniewski**	A2
237	Structural assessment of corbels and half-joints in existing bridges	2 - Regeneration, rehabilitation and adaptation of existing structures	**Rob Vergoossen**, Evert van Vugt, Martijn de Boer	**Rob Vergoossen**	D2
239	The client's point of view on the realisation of a geopolymer concrete bridge with recycled concrete aggregates	1 - Designing and building for net zero	Kees Blom, **William Schutte**, Albert Allaart, Joep van Leeuw	**William Schutte**	D4
242	Extended linear finite element calculation of a 70-years old prestressed concrete viaduct	2 - Regeneration, rehabilitation and adaptation of existing structures	**Rene Veerman**, Coen van der Vliet, Baptiste Korff	**Rene Veerman**	B9
243	Effects of material properties on slipping behavior in high-strength bolted frictional GFRP joints	3 - Designing for longevity, resilience and extreme events	**Toshie Habukawa**, Gen Hayashi, Masaki Sekimoto, Takashi	**Toshie Habukawa**	D8
246	Sensitivity Analysis and Optimization of Coupling Trusses under Wind Stiffness Constraints for Multi-Petal Supertall Buildings	4 - Reducing waste - productivity, efficiency and resource economy	**Yuzhou Hou**, Xin Zhao, Yutong Xu, Kun Ding, Bingjie Du, Yi	**Yuzhou Hou**	A7
247	Probabilistic modelling of building stock properties for urban mining	4 - Reducing waste - productivity, efficiency and resource economy	**Lombe Mutale**, Ramon Hingorani, Nils Dittrich, Jochen Köhle	**Lombe Mutale**	D9
248	Vibration design and dynamic testing for long cantilevel composite floors equipped with vibration rods in office tower	3 - Designing for longevity, resilience and extreme events	Yutong Xu, Yang Wang, **Xin Zhao**, Jun Chen, Yi Huang, Jian	**Xin Zhao**	A6
249	Optimization Process of Railway Segmental Bridges Constructed by Balanced Cantilever Method	4 - Reducing waste - productivity, efficiency and resource economy	**Jindrich Potucek**, Vojtech Kolinsky	**Jindrich Potucek**	A9
250	Sensitivity analysis of controlling indices and structural optimization for reinforced concrete shearwall residential towers	4 - Reducing waste - productivity, efficiency and resource economy	Sheng Yang, Jianan Chen, Xin Zhao, **Yuzhou Hou**	**Yuzhou Hou**	A8
251	Deep reinforcement learning algorithm based optimization method for the multiple storey braced steel frame structure under global stiffness constraints	5 - Smart Structures - designing responsive, adaptive & progressive solutions	Ming Chen, Xin Zhao, **Bingjie Du**	**Bingjie Du**	D5
254	Selection and Design of Integrated Coating Systems for Structural Components of All Steel Residential Towers	3 - Designing for longevity, resilience and extreme events	**Shuang Wu**, Xin Zhao, Yuzhou Hou, Fang Xu, Yi Huang	**Shuang Wu**	A5
255	Smart Structures: Design of Whitegates to Athlone Castle Pedestrian, Cycle Bridge	5 - Smart Structures - designing responsive, adaptive & progressive solutions	**Pankaj Das**, Mark Kilcullen, Matthew Ryan, Rachel Harney	**Pankaj Das**	D3
256	Experimental study and finite element analysis on seismic behavior of flat vertical-diaphragm stiffened concrete-filled SHS column joints	5 - Smart Structures - designing responsive, adaptive & progressive solutions	Jianan Chen, Danlin Feng, Wei Wang, **Xin Zhao**, Yang Wang	**Xin Zhao**	D5
257	Pile type selection and design of permanent-temporary synthesis structures for underground urban complexes in soft soil foundation site	1 - Designing and building for net zero	Jianlan Chen, Ming Chen, Xin Zhao, Fang Xu, Yuzhou Hou, S	**Shuang Wu**	D4
258	Sensitivity Analysis and Optimization of Coupling Trusses under Earthquake Stiffness Constraints for Multi-Core Supertall Buildings	4 - Reducing waste - productivity, efficiency and resource economy	Dinan Shao, Yutong Xu, Yuzhou Hou, **Xin Zhao**, Zhongjun Yu	**Xin Zhao**	A8
261	Analysis and design of steel structures equipped with pressure-adjustment fluid viscous dampers for wind-and-seismic double-excitation vibration mitigation	4 - Reducing waste - productivity, efficiency and resource economy	Chornay Morn, Xin Zhao, **Bingjie Du**, Wang Gang	**Bingjie Du**	D6
262	Lateral stiffness design and optimization for over-track residential towers in metro depots	4 - Reducing waste - productivity, efficiency and resource economy	Fang Xu, Yuzhou Hou, Xin Zhao, **Shuang Wu**	**Shuang Wu**	A3
263	Selection and design of wind and earthquake double-excitation vibration mitigation system using fluid viscous dampers for steel residential towers	4 - Reducing waste - productivity, efficiency and resource economy	**Bingjie Du**, Xin Zhao, Chornay Morn, Yang Wang, Yi Huang	**Bingjie Du**	A7
265	A broadened approach to the environmental assessment in bridge design	1 - Designing and building for net zero	**Vazul Boros**, Michael Aleksa, Paul Rosenkranz, Sonia Zajac	**Vazul Boros**	B4
266	Microcracks assessment during unloading for structural elements reuse	2 - Regeneration, rehabilitation and adaptation of existing structures	Sushree Sunayana, **Lisbeth M. Ottosen**	**Sissel Albrecht Kahr**	D2
268	Fatigue Design of Van Brienenoord Bridge Deck	3 - Designing for longevity, resilience and extreme events	**Rupert Gibson**, Daan Tjepkema, David Gration, Frank van D	**Rupert Gibson**	A2
269	Masonry arch bridges in the 21st century	3 - Designing for longevity, resilience and extreme events	**Matthew Gilbert**, Colin Smith, Serena Amodio	**Matthew Gilbert**	A1
271	Electric Curing of Conductive Concrete for Cold Weather	3 - Designing for longevity, resilience and extreme events	Alyssa Sunga, **Shahriar Abubakri**, Gilson Lomboy, Islam Ma	**Shahriar Abubakri**	A5
273	Strengthening of a Curved and Skew Supported Prestressed Hollow Box Girder	2 - Regeneration, rehabilitation and adaptation of existing structures	**Maria Kierzek**, Vasco Amaral, Kristian Schellenberg	**Maria Kierzek**	C2
274	Ship impact loads on construction pits of bridges	3 - Designing for longevity, resilience and extreme events	**Claus Kunz**	**Claus Kunz**	C9
276	Shear reinforcement of Steel I-beams using CFRP composites	2 - Regeneration, rehabilitation and adaptation of existing structures	**Sean Zahra**, Jeanette M Muñoz Abela	**Sean Zahra**	C4
279	Rehabilitation of the Outeiro Bridge with emergency strengthening of the superstructure damaged by barges impact	2 - Regeneration, rehabilitation and adaptation of existing structures	**Pedro Almeida**, Leila Pamplona, Adler Silveira, Evelly Silva	**Pedro Almeida**	C1
280	Sustainability and Beauty in Bridge Design	1 - Designing and building for net zero	**Hector Beade-Pereda**	**Hector Beade-Pereda**	B6
283	Seismic Evaluation and Rehabilitation of Steel Structures in the United States	2 - Regeneration, rehabilitation and adaptation of existing structures	**Roberto Leon**, Jay Harris, Conrad Paulson	**Roberto Leon**	C4
288	Thame Valley Viaduct: carbon efficient DfMA viaduct for HS2	1 - Designing and building for net zero	**Fernando Madrazo-Aguirre**	**Fernando Madrazo-Aguirre**	B3
292	Streamlining a Transitional Shelter Design: A DFMA-Driven Approach for Efficient Design and Assembly	3 - Designing for longevity, resilience and extreme events	**Cheryl Lyne Roxas**, John Paul de Pedro, Rhem Leoric Dela	**Cheryl Lyne Roxas**	A4
294	Construction and Testing of a CFRP-prestressed Railway Bridge Prototype	3 - Designing for longevity, resilience and extreme events	**Andreas Näsbom**, Karel Thoma, Walter Kaufmann	**Andreas Näsbom**	A1
300	The Transpennine Route Upgrade & Project West 3	1 - Designing and building for net zero	**Graham Thomas**	**Graham Thomas**	B2
301	The Legacy of the Past: Geotechnical challenges from coal mining impacting major rail infrastructure.	1 - Designing and building for net zero	**Paul McEwen**, Sue Thomson and Richard Deakin	**Paul McEwen**	B2
302	Transpennine Route Upgrade - Huddersfield Viaduct	1 - Designing and building for net zero	Sonam Norbu, **Aiken Harrap**, Will Spencer	**Aiken Harrap**	B2
303	Baker Viaduct: On Track to Better - The Design of a New Railway Viaduct for the 21st Century	1 - Designing and building for net zero	**Chris Jackson**, Francisco Rodriguez Salas	**Chris Jackson**	B2
304	Adaptive pathways for critical infrastructure resilience	3 - Designing for longevity, resilience and extreme events	**Nisrine Makhoul**, Dimitra V. Achillopoulou, Rolands Kroman	**Nisrine Makhoul**	A2
305	Interdisciplinary data collection for empirical community-level recovery modelling	3 - Designing for longevity, resilience and extreme events	**Blythe Johnston**, Lisa Wang, John W. van de Lindt, Shane	**Blythe Johnston**	D8