

8th International Conference on Arch Bridges

ARCH 2016

Arch Bridges in Culture

Conference Final Programme



**Wrocław University
of Science and Technology**

Faculty of Civil Engineering

**8th International Conference
of Arch Bridges**



October 5-7, 2016, Wrocław, Poland

General Programme

Building	Time	5 th October (WEDNESDAY)		
D-20	7:30-9:00	Registration (main hall)		
	9:00-10:00	Opening ceremony		
	10:00-11:30	Keynote 1		
		Keynote 2		
		Keynote 3		
	11:30-12:00	Coffee-break		
	12:00-13:30	S1 ARCH BRIDGES - MONUMENTS OF TECHNICAL CULTURE I	S2 DESIGNING OF LARGE ARCH BRIDGES	S3 CONSTRUCTION TECHNOLOGIES - CASE STUDIES OF LARGE BRIDGES
	13:30-15:00	Lunch		
15:00-16:30	S4 ARCH BRIDGES - MONUMENTS OF TECHNICAL CULTURE II	S5 DESIGNING OF ARCH BRIDGES	S6 CONSTRUCTION TECHNOLOGIES - INNOVATIVE SOLUTIONS	
H-3	16:30-17:30	Scientific Committee Meeting		

Building	Time	6 th October (THURSDAY)		
D-20	9:00-10:30	Keynote 4		
		Keynote 5		
		Keynote 6		
	10:30-11:00	Coffee-break		
	11:00-12:30	S7 MASONRY ARCH BRIDGES - EXPERIMENTAL STUDIES	S8 DESIGNING OF ARCH BRIDGES - NEW SOLUTIONS	S9 CONSTRUCTION TECHNOLOGIES - SELECTED PROBLEMS
	12:30-14:00	Lunch		
	14:00-15:30	S10 MASONRY ARCH BRIDGES - MODELLING AND ANALYSIS	S11 ARCH FOOTBRIDGES - CASE STUDIES	S12 SAFETY ASSESSMENT OF ARCH BRIDGES
	15:30-16:00	Coffee-break		
	16:00-17:30	S13 ARCHES UNDER LIVE LOADS	S14 DYNAMICS OF ARCH BRIDGES	

City Arsenal	19:00-21:00	Welcome reception
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Town Hall	19:00-23:00	Gala dinner
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Building	Time	7 th October (FRIDAY)		
D-20	9:00-10:30	Keynote 7		
		Keynote 8		
		Keynote 9		
	10:30-11:00	Coffee-break		
	11:00-12:30	S15 MASONRY ARCH BRIDGES - ASSESSMENT METHODS	S16 MECHANICAL PERFORMANCE OF ARCH BRIDGES I	S17 DEGRADATION AND MAINTENANCE OF ARCH BRIDGES
	12:30-14:00	Lunch		
	14:00-15:30	S18 THEORETICAL PROBLEMS	S19 MECHANICAL PERFORMANCE OF ARCH BRIDGES II	S20 RENOVATION OF ARCH BRIDGES
	15:30-16:00	General discussion & closing ceremony		

Place	Time	8 th July (SATURDAY)
Toruń	8:00-20:00	Technical visit

Detailed Programme

Start	End	5 th OCTOBER (Wednesday)		
07:30	09:00	Registration (building D-20: Congress Centre, main hall)		
09:00	10:00	Opening ceremony		
		Chairs: Andrzej Trochimczuk, Tadeusz Więckowski, Dariusz Łydzba, Jerzy Hola, Jan Biliszczuk, Jan Bień	Room: 10AC	
10:00	11:30	Keynote lectures		
		Chairs: Boachun Chen, Henryk Zobel	Room: 10AC	
10:00	10:30	K1	Enzo Siviero, Viviana Martini	ARCHED BRIDGES: HARMONY, COMPOSITION, MEANINGS, PERCEPTION
10:30	11:00	K2	Jure Radić, Zlatko Savor, Marija Kušter Marić	AESTHETICS OF CONTEMPORARY ARCH BRIDGES
11:00	11:30	K3	Jan Biliszczuk	ARCH BRIDGES IN POLAND - PAST, PRESENT AND FUTURE
11:30	12:00	Coffee-break		
12:00	13:30	Parallel session S1		
		ARCH BRIDGES - MONUMENTS OF TECHNICAL CULTURE I		
		Chairs: Charles Abdunur, Cezary Bednarski	Room: 10D	
12:00	12:15	1	Jan Biliszczuk, Marco Teichgraeber, Volodymyr Volotsiuga	FELIKS PANCER – POLISH ENGINEER, VISIONARY AND HIS WORK (1798-1851)
12:15	12:30	2	Marija Kušter Marić, Jure Radić Dunja Buljan	CULTURAL HERITAGE AND AESTHETICS OF ARCH BRIDGES ON THE TERRITORIES OF CROATIA AND BOSNIA AND HERZEGOVINA
12:30	12:45	3	Janusz Rymysza	THE BRIDGE ON TRAJAN'S COLUMN IN ROME
12:45	13:00	4	Yan Yang, Baochen Chen Shozo Nakamura Takafumi Nishikawa	STRUCTURAL FORM OF TIMBER ARCH BRIDGES AND RESEARCH VALUE OF A CHINESE WOVEN TIMBER ARCH
13:00	13:15	5	Lara Slivnik	HISTORY AND CLASSIFICATION OF THE THREE-HINGED ARCH BRIDGE
13:15	13:30	6	Adam Wysokowski, Jerzy Howis, Krzysztof Galka	REBUILDING AND RESTORATION OF HISTORICAL ALEXANDRINUS BRIDGE IN KALISZ

		Parallel session S2			
		DESIGNING OF LARGE ARCH BRIDGES			
		Chairs: Fernando Stucchi, Jan Biliszczuk			Room: 10B
12:00	12:15	1	Volkhard Angelmaier, Wolfgang Eitzer, Holger Haug	TAMINA CANYON CROSSING, BAD RAGAZ, SWITZERLAND	
12:15	12:30	2	Guillermo Capellán, Javier Martínez, Emilio Merino, Pascual García, David Arribas Pablo Jimenez	VIADUCT OVER RIVER ALMONTE - SITE CONTROL SUPERVISION	
12:30	12:45	3	Dariusz Sobala, Krzysztof Wąchalski	MODERN SOLUTION FOR THE FOUNDATION OF POLAND'S LARGEST ARCH BRIDGE	
12:45	13:00	4	Juan José Arenas, Guillermo Capellán Pascual García, Ignacio Meana	VIADUCT OVER RIVER ALMONTE - CONCEPTUAL DESIGN	
13:00	13:15	5	Juan José Arenas, Guillermo Capellán, Javier Martínez, Emilio Merino, Ysabel Guill Pascual García	VIADUCT OVER RIVER ALMONTE - CONSTRUCTION PROJECT ANALYSIS	
13:15	13:30	6	Krzysztof Wąchalski	INNOVATIVE SOLUTION FOR A BRIDGE OVER VISTULA RIVER IN TORUŃ	
		Parallel session S3			
		CONSTRUCTION TECHNOLOGIES - CASE STUDIES OF LARGE BRIDGES			
		Chairs: Yun Yan, Jerzy Onysyk			Room: 10AC
12:00	12:15	1	Pedro Caveró, David Arribas, David Carnero, Pablo Jiménez	ALMONTE VIADUCT - CONSTRUCTION PROCESS	
12:15	12:30	2	David Arribas, Pablo Bernal, José María Pérez, José Ignacio González	ALMONTE VIADUCT - DETAILED DESIGN	
12:30	12:45	3	Jerzy Bąk, Krzysztof Grej	BRIDGE OVER THE VISTULA RIVER AT TOWN OF PULAWY	
12:45	13:00	4	Chen Ming, Peng Chengming	KEY CONSTRUCTION TECHNOLOGY OF A LARGE-SPAN DOUBLE-LEG STEEL-BOX ARCH BRIDGE USING CABLE CRANE SYSTEM	
13:00	13:15	5	Renzhong Zhou, Tian Wei, Li Xin, Dongliang Xun	CONSTRUCTION AND CONTROL TECHNOLOGY OF LONG-SPAN STEEL ARCH BRIDGE CONSTRUCTED BY CANTILEVER ASSEMBLY METHOD WITH CABLE-STAYED PULLING AND BUCKLING SYSTEM	
13:15	13:30	6	Rolf Meichtry, Rafael Kühne	CONSTRUCTION OF THE ARCH OF THE TAMINA BRIDGE	
13:30	15:00	Lunch			

		Parallel session S4		
		ARCH BRIDGES - MONUMENTS OF TECHNICAL CULTURE II		
		Chairs: Shozo Nakamura, Adam Wysokowski		Room: 10D
15:00	15:15	1	Rosemarie Helmerich, Astrid Zunkel, Ralf Haecker	CAST IRON ARCH BRIDGES - PART OF THE WORLD HERITAGE
15:15	15:30	2	Volodymyr Volotsiuga	ARCH BRIDGES IN UKRAINE
15:30	15:45	3	Qing Chen, Shusheng Chen, Yun Yan, Xin Shanguan	THE MOST BEAUTIFUL LIGHT STONE ARCH BRIDGE IN ZHANGJIAJIE CITY OF CHINA
15:45	16:00	4	Alan Gibson Mordey	THE ARCH BRIDGES OF DURHAM CITY, ENGLAND
16:00	16:15	5	Baochun Chen, Qingwei Huang, Yan Yang, Zhaohui Chen	ARCH BRIDGES IN CAMPUS CULTURE OF FUZHOU UNIVERSITY
16:15	16:30	6	Alan Gibson Mordey	THE ARCH BRIDGE AS AN ENDURING BUT ADAPTABLE STRUCTURAL FORM
		Parallel session S5		
		DESIGNING OF ARCH BRIDGES		
		Chairs: Jan Bieñ, Janusz Hołowaty		Room: 10B
15:00	15:15	1	Guillermo Capellán, Juan José Arenas, Enzo Siviero, Roberto Di Marco, Fabio Di Marco, Alessandro Pistolesi, Gianni Ascarelli, Miguel Sacristán	DESIGN OF PONTE DEI CONGRESSI IN ROME, ITALY
15:15	15:30	2	Cezary Marek Bednarski	ARCH OF ART A LA CARTE OR BENDING OVER BACKWARDS
15:30	15:45	3	Baochun Chen, Jiangang Wei, Qinxiong Wu	CHINA TECHNICAL CODE FOR CFST ARCH BRIDGES
15:45	16:00	4	Xingjun Zuo, Xueqing Liu, Liang Ren, Shiyong Tan, Guanxing Shang, Wancheng Li	CONTINUOUS DESIGN OF CANTILEVER BEAM OF CFST HALF- THROUGH ARCH BRIDGES
16:00	16:15	5	Athanasios Bistolas, Tim Abbott, Rusi Rusev	THE ORDSALL CHORD NETWORK ARCH BRIDGE – ADDRESSING COMPLEX DEMANDS THROUGH COLLABORATION
16:15	16:30	6	Edmund Budka, Maciej Kożuch, Wojciech Lorenc, Józef Rabięga, Dariusz Śmierćka	ROAD ARCH BRIDGE OVER THE Odra RIVER

		Parallel session S6				
15:00		16:30		CONSTRUCTION TECHNOLOGIES - INNOVATIVE SOLUTIONS		
		Chairs: Zlatko Šavor, Jan Biliszczuk				Room: 10AC
15:00	15:15	1	Jan Biliszczuk, Robert Toczkievicz, Jerzy Onysyk, Wojciech Barcik	MODERN ARCH BRIDGES IN POLAND - CONSTRUCTION METHODS		
15:15	15:30	2	Krzysztof Wąchalcki, Zbigniew Szubski	THE ERECTION OF ARCH BRIDGE OVER VISTULA RIVER IN TORUŃ		
15:30	15:45	3	Maciej Malinowski, Anna Banaś, Marcin Jeszka	STRAIN GAUGES MONITORING OF ARCH BRIDGE OVER THE VISTULA RIVER IN TORUŃ DURING CONSTRUCTION		
15:45	16:00	4	Adrian Long, Sreejith Nanukuttan, Daniel McPolin, Abhey Gupta, David Robb	FLEXIARCH SYSTEM: RENAISSANCE OF ARCH CULTURE		
16:00	16:15	5	Yu Han	VACUUM-AIDED CONCRETE CASTING TECHNIQUE FOR CFST ARCH BRIDGES: EXPERIMENTAL INVESTIGATION AND PRACTICAL APPLICATION		
16:15	16:30	6	Alejandro Calderon, Landaverde, Alejandro Calderon Ollivier	CONSTRUCTION OF A 55-METRE SPAN STEEL ARCH BRIDGE WITHOUT USING CRANES, SCAFFOLDING, FALSEWORK OR TEMPORARY STRUCTURES		
16:30	17:30	Scientific Committee Meeting (building H-3)				

19:00	21:00	Welcome reception (City Arsenal)				
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Start	End	6 th OCTOBER (Thursday)			
09:00	10:30	Keynote lectures			
		Chairs: Matthew Gilbert, Krzysztof Żółtowski			Room: 10AC
09:00	09:30	K4	Krzysztof Wąchalcki	THE BIGGEST ARCH BRIDGE IN POLAND	
09:30	10:00	K5	Mykhailo Korniiiev	ARCH BRIDGE OVER DNIPRO RIVER IN KYIV	
10:00	10:30	K6	Baochun Chen, Zlatko Šavor, Qingwei Huang	MATERIAL PERFORMANCE FOR LONG SPAN CONCRETE ARCH BRIDGES: HIGHER IS BETTER	
10:30	11:00	Coffee-break			
11:00	12:30	Parallel session S7			
		MASONRY ARCH BRIDGES - EXPERIMENTAL STUDIES			
		Chairs: Cristina Costa, Tomasz Kamiński			Room: 10D
11:00	11:15	1	Antonio Brencich, Giuseppe Riotto	VAULT-FILL INTERACTION IN MASONRY BRIDGES: AN EXPERIMENTAL APPROACH - 1: STATICS	
11:15	11:30	2	Antonio Brencich, Giuseppe Riotto	VAULT-FILL INTERACTION IN MASONRY BRIDGES: AN EXPERIMENTAL APPROACH - 2: DYNAMICS	
11:30	11:45	3	Climent Molins, Pere Roca, Oriol Arnau, Rafael Farina	NUMERICAL SIMULATION OF EXPERIMENTS ON MASONRY ARCH BRIDGES	
11:45	12:00	4	António Arêde, Cristina Costa, Rúben Silva, António Topa Gomes, José Eduardo Menezes	EXPERIMENTAL CHARACTERIZATION OF THE STRUCTURAL BEHAVIOUR OF STONE ARCH RAILWAY BRIDGES OPERATIONAL MODAL ANALYSIS AND VIBRATION SERVICEABILITY ASSESSMENT OF A FOOTBRIDGE	
12:00	12:15	5	Antonio Brencich, Davide Pera	A NEW RETROFITTING TECHNIQUE FOR MASONRY BRIDGES	
12:15	12:30	6	Łukasz Hojdys, Piotr Krajewski	EXPERIMENTAL TESTS ON MASONRY ARCHES STRENGTHENED WITH A MORTAR-BASED STRENGTHENING SYSTEM	

		Parallel session S8			
		DESIGNING OF ARCH BRIDGES - NEW SOLUTIONS			
		Chairs: Marija Kušter Marić, Jerzy Bał			Room: 10B
11:00	12:30				
11:00	11:15	1	Ladislav Šašek, Petr Nehasil	TROJA BRIDGE IN PRAGUE	
11:15	11:30	2	Mahmood Minavand, Amir Peyman Zandi	STEEL ARCH BRIDGES FOR AN URBAN OVERPASS	
11:30	11:45	3	Janusz Ukleja	STEEL ARCH BRIDGE WITH A REINFORCED CONCRETE COMPOSITE SLAB PLATFORM - CASE STUDY	
11:45	12:00	4	Krzysztof Żółtowski, Tomasz Romaszkievicz	ARCH VIADUCT IN POMERANIA METROPOLITAN RAILWAY - FORM FINDING AND IDEA OF PRESTRESSING	
12:00	12:15	5	Tom Argyle, Rachel Mitchell	DESIGN OF THE GATEWAY BRIDGE, A SKEWED ARCH FOR THE A465 HEADS OF THE VALLEYS SCHEME	
12:15	12:30	6	Jun-Qin Lei, Kun Zhang, Wen-Yu Ji, Bing Han, Ri Gao	STUDY AND EXPERIMENTS ON THE LONG-SPAN STEEL-BOX STACKED ARCH BRIDGE OF HIGH-SPEED RAILWAY	
		Parallel session S9			
		CONSTRUCTION TECHNOLOGIES - SELECTED PROBLEMS			
		Chairs: Lorenzo Jurina, Paweł Hawryszków			Room: 10AC
11:00	12:30				
11:00	11:15	1	Jan L. Vitek, Vojtech Kolínský	CONSTRUCTION AND MONITORING OF THE OPARNO VALLEY BRIDGE	
11:15	11:30	2	Milan Kalný, Vaclav Kvasnička, Jan Komanec, Robert Brož, Jan L. Vitek	OPARNO BRIDGE - MODERN TECHNOLOGY FOR CLASSICAL ARCH	
11:30	11:45	3	Jianhong Huang, Jianfeng Shi, Xing Shangguan, Chang-Fu Hu, Zunyong Dai	RESEARCH ON A CFST TIED ARCH BRIDGE CONSTR BY INCREMENTAL LAUNCHING METHOD	
11:45	12:00	4	Jerzy Broś, Sławomir Biegański, Grzegorz Sierka, Paweł Woźny, Bartosz Plaszczyk, Stanisław Jan Bolanowski	INCREMENTAL LAUNCHING OF RAILWAY ARCH BRIDGES	
12:00	12:15	5	Yongtao Zhang, Renzhong Zhou	AN AUTOMATIC WALKING-TYPE LAUNCHING SYSTEM AND ITS APPLICATION IN JIUBAO BRIDGE	
12:15	12:30	6	Silvia Geyer, Stefano Mazzoleni, Giuliano Ambroset	STADSBRUG NIJMEGEN CABLES INSTALLATION AND TENSIONING CHALLENGE	
12:30	14:00	Lunch			

		Parallel session S10		
		MASONRY ARCH BRIDGES - MODELLING AND ANALYSIS		
		Chairs: Climent Molins, Wojciech Lorenc		Room: 10D
14:00	14:15	1	Cristina Costa, Diogo Ribeiro, Pedro Jorge, Maria Morais, António Arêde, Rui Calçada	NUMERICAL MODELLING OF THE STRUCTURAL BEHAVIOUR OF STONE ARCH BRIDGES UNDER RAILWAY TRAFFIC LOADING
14:15	14:30	2	Cristina Costa, Tomasz Kamiński	COMPARISON OF VARIOUS MODELLING TECHNIQUES APPLIED IN ANALYSIS OF MASONRY ARCH BRIDGES
14:30	14:45	3	Matthew Gilbert, Clive Melbourne, Colin Smith, Levi Augusthus-Nelson, Gareth Swift	PROPOSED PERMISSIBLE LIMIT STATE ASSESSMENT CRITERIA FOR MASONRY ARCH BRIDGES
14:45	15:00	4	Michał Pyltos, Matthew Gilbert, Colin Smith	USE OF A PHYSICS ENGINE TO MODEL SOIL FILLED MASONRY ARCH BRIDGES
15:00	15:15	5	Turan Karabörk, Tülin Çelik, Ali Ural	FINITE ELEMENT ANALYSES OF HISTORICAL BICAKCI ARCH BRIDGE, TURKEY
15:15	15:30	6	Enrico Tubaldi, Lorenzo Macorini, Bassam Izzuddin	SAFETY OF MASONRY ARCH BRIDGES AGAINST FLOOD HAZARD
		Parallel session S11		
		ARCH FOOTBRIDGES - CASE STUDIES		
		Chairs: Jiří Stráský, Krzysztof Wąchalski		Room: 10AC
14:00	14:15	1	Brent Whitcomb, Michael McDonagh, Thomas Cooper Christian Rieser, Jean-Francois Blassel	ST. PATRICK'S PEDESTRIAN BRIDGE DESIGN AND CONSTRUCTION
14:15	14:30	2	Petr Tej, Petr Kněž, Marek Blank, Ondřej Císlar	DESIGN OF AN EXPERIMENTAL PEDESTRIAN ARCH BRIDGE MADE OF UHPC
14:30	14:45	3	Marek Pańtak, Grzegorz Bosak	DYNAMIC BEHAVIOUR OF THE ARCH FOOTBRIDGE IN WŁOCŁAWEK DURING HUMAN-INDUCED VIBRATIONS
14:45	15:00	4	Krzysztof Żółtowski Mikołaj Bińczyk	ARCH FOOTBRIDGE OVER WARTA RIVER IN WRONKI - DESIGN AND CONSTRUCTION
15:00	15:15	5	Paweł Hawryszków	DYNAMICAL INVESTIGATION OF A FOOTBRIDGE IN WRONKI NEAR POZNAŃ
15:15	15:30	6	Anna Banaś Maciej Malinowski, Natalia Gęda, Ewelina Mienicka	DYNAMIC ANALYSIS OF A FOOTBRIDGE OVER THE S8 EXPRESSWAY ON THE BASIS OF THE RESULTS OF IN SITU TESTS

		Parallel session S12			
		SAFETY ASSESSMENT OF ARCH BRIDGES			
		Chairs: Milan Kalný, Yao Guowen			Room: 10B
14:00	14:15	1	Maria Kyriakou, Daniel V. Oliveira, Hugo Rodrigues	SEISMIC ASSESSMENT OF MASONRY ARCH BRIDGES WITH FIBER BEAM STRATEGY	
14:15	14:30	2	Laura Severini Massimo Federico Bonfigli, Marco Breccolotti, Nicola Cavalagli, Vittorio Gusella	SEISMIC ASSESSMENT OF MASONRY ARCH BRIDGES AND PARAMETRIC INVESTIGATION OF STRUCTURAL REINFORCEMENT	
14:30	14:45	3	Lorenzo Jurina	EXPERIMENTAL TESTS ON CONSOLIDATION OF MASONRY BRIDGES USING "RAM-REINFORCED ARCH METHOD"	
14:45	15:00	4	Huihui Yuan, Qingxiong Wu, Baochun Chen	NONLINEAR SEISMIC ANALYSIS OF A CONCRETE ARCH BRIDGE WITH STEEL WEBS	
15:00	15:15	5	Fernando Saitta Paolo Clemente, Giacomo Buffarini	ANALYSIS OF ARCH BRIDGES WITH FINITE COMPRESSION STRENGTH MASONRY UNDER HORIZONTAL LOADINGS	
15:15	15:30	6	Mohamed A. Azim Elewa, Hussein Mohamed Abbas	SAFETY ASSESSMENT OF CONCRETE RAILWAY TIED-ARCH BRIDGE IN EGYPT	
15:30	16:00	Coffee-break			
		Parallel session S13			
		ARCHES UNDER LIVE LOADS			
		Chairs: Antonio Arede, Damian Beben			Room: 10D
16:00	16:15	1	Hanna Onysyk	RELIABILITY OF BRIDGE IN OPERATION BASED ON STRUCTURAL HEALTH MONITORING SYSTEM DATA	
16:15	16:30	2	Tomasz Kamiński, Czesław Machelski	EXPERIMENTAL AND NUMERICAL STUDY ON DISPLACEMENTS OF MASONRY BRIDGES UNDER LIVE LOADS	
16:30	16:45	3	José Martín-Caro, David Lopez	SUSCEPTIBILITY OF ARCHES TO DEGRADATION UNDER SERVICE LOADING CONDITIONS	
16:45	17:00	4	Levi Augusthus-Nelson, Gareth Swift Colin Smith, Matthew Gilbert, Clive Melbourne	BEHAVIOUR OF BACKFILLED MASONRY ARCH BRIDGES SUBJECTED TO CYCLIC LOADING	
17:00	17:15	5	Łukasz Piotr Zymła, Wojciech Zielichowski- Haber, Michał Majka	ADVANCED STRUCTURAL ASSESSMENT TECHNIQUES OF CAST IRON RAILWAY ARCH BRIDGE	
17:15	17:30	6	Alemdar Bayraktar, Ahmet Can Altunşik, Temel Türker	CONDITION ASSESSMENT OF STEEL ARCH BRIDGES BASED ON AMBIENT VIBRATION TESTING	

		Parallel session S14		
		DYNAMICS OF ARCH BRIDGES		
		Chairs: Antonio Brenich, Mieszko Kuźawa		Room: 10B
16:00	17:30			
16:00	16:15	1	Wojciech Radomski, Radosław Oleszek	DYNAMIC RESPONSE OF AN ARCH BRIDGE UNDER HSLM HIGH-SPEED TRAIN LOADING ACCORDING TO THE EUROPEAN STANDARDS (EN)
16:15	16:30	2	Marek Pańtak	DYNAMIC CHARACTERISTICS AND BEHAVIOUR OF THE ARCH FOOTBRIDGES DURING HUMAN-INDUCED VIBRATIONS
16:30	16:45	3	Yiqiang Xiang, Lichang Zhang, Xiaowei Ye	DYNAMIC BEHAVIOUR ANALYSIS AND EXPERIMENTAL STUDY OF STEEL TUBE ARCH BRIDGE MODEL
16:45	17:00	4	Qingxiong Wu, Baochun Chen, Jian Zheng, Yingen Yu	DYNAMIC ANALYSIS OF CABLE LOSS OF A CONCRETE-FILLED STEEL TUBULAR ARCH BRIDGE
17:00	17:15	5	Adrienn K. Tomor, John Nichols, Andrea Benedetti	IDENTIFYING THE CONDITION OF MASONRY ARCH BRIDGES USING CX1 ACCELEROMETER
17:15	17:30	6	Borja Conde, Daniel V. Oliveira, Luís F. Ramos, Belén Riveiro, Pedro Arias, Paulo B. Lourenço	MULTIDISCIPLINARY APPROACH TO THE STRUCTURAL ASSESSMENT OF A HISTORICAL MASONRY ARCH BRIDGE

19:00	23:00	Gala dinner (Town Hall)		
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Start	End	7 th OCTOBER (Friday)		
09:00	10:00	Keynote lectures		
		Chairs: Climent Molins, Jan Bień		Room: 10AC
09:00	09:30	K7	Jiří Stráský, Radim Nečas	ARCH PEDESTRIAN BRIDGES
09:30	10:00	K8	Fernando Rebouças Stucchi	ARCH BRIDGES IN SOUTH AMERICA
10:00	10:30	K9	António Adão da Fonseca	CONTEMPORARY CONCRETE ARCH BRIDGES
10:30	11:00	Coffee-break		
11:00	12:30	Parallel session S15		
		MASONRY ARCH BRIDGES - ASSESSMENT METHODS		
		Chairs: José Antonio Martín-Caro, Michal Majka		Room: 10D
11:00	11:15	1	Antonio Brencich, Giancarlo Cassini, Davide Pera	LOAD BEARING STRUCTURE OF MASONRY BRIDGES
11:15	11:30	2	Thomas Job Thoppil Vijayalekshmi	BEHAVIOUR OF MASONRY ARCH BRIDGES: A REVIEW
11:30	11:45	3	Danila Aita Riccardo Barsotti, Stefano Bennati	ANALYSIS OF SOME HISTORICAL SIZING RULES FOR ARCHWALL- PIERS SYSTEMS
11:45	12:00	4	Adem Doğangün, Ali Ural, Halide Sert, Mutluhan Nas, Esat Mahmut Partal	DETERMINATION OF LINEAR BEHAVIOUR OF AN HISTORIC STONE ARCH BRIDGE WITH A DEVELOPING FINITE ELEMENT CODE
12:00	12:15	5	Jinyan Wang, Jonathan Haynes, Clive Melbourne	INVESTIGATION OF ASSESSMENT METHODS FOR RAILWAY MASONRY ARCH BRIDGES
12:15	12:30	6	Ali Ural, Adem Doğangün, Halide Sert, Mutluhan Nas, Esat Mahmut Partal	EVALUATING THE LINEAR AND NONLINEAR BEHAVIOUR OF A THREE-SPAN STONE ARCH BRIDGE IN AKSARAY, TURKEY

		Parallel session S16	
		MECHANICAL PERFORMANCE OF ARCH BRIDGES I	
		Chairs: Rosemarie Helmerich, Josef Vičan	
		Room: 10AC	
11:00	11:15	1	Fuyun Y. Huang, Haimin M. Qian, Zhenghui Xiong EXPERIMENT ON MECHANICAL BEHAVIOUR OF CONCRETE-FILLED STEEL TUBULAR TRUSS ARCH
11:15	11:30	2	Hanhui Huang, Kangming Chen, Qingxiang Wu STUDY ON STRESS CONCENTRATION FACTOR OF CFST K-JOINT
11:30	11:45	3	Michael Schmidmeier, Karl G. Schütz, Rainer Ehmann FATIGUE OF LOCKED COIL ROPES DUE TO BENDING
11:45	12:00	4	Qu Wang, Shozo Nakamura, Kangming Chen, Baochun Chen, Qingxiang Wu FATIGUE ANALYSIS OF K-JOINT IN A HALF-THROUGH CONCRETE-FILLED STEEL TUBULAR TRUSSED ARCH BRIDGE IN CHINA
12:00	12:15	5	Martin Bechtold, Artur Zieliński FULL LOCKED COIL ROPE HANGERS FOR ARCH BRIDGES - PRODUCT PROPERTIES, PRODUCT POTENTIAL AND INSTALLATION EXAMPLES
12:15	12:30	6	Shuixing Zhou, Jan Yang, Min Zhang, Zhixiang Zhou, Ceshi Sun EFFECTS OF STAY CABLE ARRANGEMENT ON MECHANICS AND DEFORMATION OF MAIN ARCH CONSTRUCTED BY CANTILEVER CASTING METHOD
		Parallel session S17	
		DEGRADATION AND MAINTENANCE OF ARCH BRIDGES	
		Chairs: Jan Vitek, Janusz Ukleja	
		Room: 10B	
11:00	11:15	1	Manyop Han, Jongsung Sim, Byungsook Kim THE CLASSIFICATION CODE SYSTEM FOR ARCH BRIDGE IDENTIFICATION
11:15	11:30	2	Jan Bień, Małgorzata Gladysz-Bień GERONTOLOGY OF ARCH BRIDGES
11:30	11:45	3	José Martín-Caro, David Lopez ASSESSMENT OF DAMAGED ARCHES
11:45	12:00	4	Guowen Yao, Pengxi Zou, Gang Liao TYPICAL DISEASES OF THE STONE ARCH BRIDGES IN THE MOUNTAINOUS AREAS OF CHINA AND THEIR REMEDIES
12:00	12:15	5	Vítězslav Vacek, Jiří Kolísko, Petr Tej, Lucie Kudrnáčová TEN YEARS AFTER RECONSTRUCTION OF PLEČNÍK'S FOOTBRIDGE AT PRAGUE CASTLE
12:15	12:30	6	Jan Bańcerek MODERNIZATION OF RAILWAY BRIDGE ON THE POLISH-GERMAN BORDER
12:30	14:00	Lunch	

		Parallel session S18			
		THEORETICAL PROBLEMS			
		Chairs: Daniel V. Oliveira, Robert Toczkievicz			Room: 10D
14:00	14:15	1	Jiangang Wei, Jun Zhou, Junping Liu, Baochun Chen	APPLICATION OF CONCRETE-FILLED STEEL TUBE ARCH BRIDGES IN CHINA	
14:15	14:30	2	Wei Jiang, Dagang Lu	SAFETY FACTORS ASSESSMENT FOR IN-PLANE STABILITY OF CONCRETE FILLED STEEL TUBULAR ARCHES USING INVERSE FINITE ELEMENT RELIABILITY METHOD	
14:30	14:45	3	Josef Vičan, Jaroslav Odrobiňák, Jozef Gocál	ON OUT-OF-PLANE STABILITY OF BOW-STRING ARCH BRIDGES	
14:45	15:00	4	Xiuying Lai, Baochun Chen	SHRINKAGE PREDICTED MODEL OF CONCRETE FILLED STEEL TUBE AND SHRINKAGE STRESS OF CONCRETE FILLED STEEL TUBULAR ARCH	
15:00	15:15	5	Luigi Fenu, Bruno Briseghella, Eleonora Congiu	CURVED FOOTBRIDGES SUPPORTED BY A SHELL OBTAINED AS AN ENVELOPE OF THRUST-LINES	
15:15	15:30	6	Miguel Munoz IV, Rony Guerra, Miguel Munoz III, Bruno Briseghella	CONSTRUCTION PROCEDURES FOR LOW COST ARCH BRIDGES IN BOLIVIA	
		Parallel session S19			
		MECHANICAL PERFORMANCE OF ARCH BRIDGES II			
		Chairs: Enrico Tubaldi, Marek Pařitak			Room: 10AC
14:00	14:15	1	Junping Liu, Xiaobo Chen, Tongning Wang	ANALYSIS ON MECHANICAL BEHAVIOUR AND STABILITY OF STIFF SKELETON ARCH RIB WITH LONG SPAN DURING CONSTRUCTION PHASE	
14:15	14:30	2	Guowen Yao, Shangshang Zhang, Yang Chao	ANALYSIS OF THE STRUCTURAL BEHAVIOUR OF SHORT SUSPENDERS IN LARGE-SPAN TIED ARCH BRIDGES	
14:30	14:45	3	Damian Bęben	THE INFLUENCE OF BACKFILL QUALITY ON SOIL-STEEL ARCH BRIDGE DEFORMATION	
14:45	15:00	4	Piotr Tomala, Wojciech Samolewski, Paulina Andersz	BURIED STEEL-SOIL ARCH STRUCTURES IN EUROPE	
15:00	15:15	5	Patryk Wolert, Andrzej Nowak	RELIABILITY ANALYSIS FOR A 100-YEAR-OLD REINFORCED CONCRETE FRAMED BRIDGE	
15:15	15:30	6	José Matos, Alfred Strauss, Hugo Guimarães, Ivan Zambon	AN OVERVIEW OF PERFORMANCE INDICATORS FOR ARCH BRIDGES IN EUROPE	

		Parallel session S20	
		RENOVATION OF ARCH BRIDGES	
		Chairs: Ali Ural, Hanna Onysyk	
		Room: 10B	
14:00	15:30		
14:00	14:15	1	Janusz Holowaty, Dariusz Jurkowski, Gabor Zimny
		RETROFITTING OF A MASONRY ARCH VIADUCT AND CULVERT	
14:15	14:30	2	Jordi Pons, Zuzanna Rzeplńska
		EXPERIENCES ON REPAIRING, STRENGTHENING & WIDENING OLD ARCH BRIDGES	
14:30	14:45	3	Halide Sert, Süheyla Yılmaz, Hakan Demirci, Ayşe Avşın, Mutluhan Nas, Gül Sibel Turan, Nurdan Apaydın, Hakkı İlhan Korkmaz
		RESTORATION WORKS CARRIED OUT AT HISTORICAL MALABADI BRIDGE	
14:45	15:00	4	Paolo Franchetti, Michele Frizzarin
		REFURBISHMENT OF CONCRETE ARCH BRIDGE IN NE ITALY	
15:00	15:15	5	Jozef Rabięga, Maciej Kożuch, Wojciech Lorenc, Dariusz Śmierka, Paweł Wątroba, Ryszard Wodyński
		RECONSTRUCTION OF THE OLD SOUTH JAGIELLONIAN ARCH BRIDGE OVER CHANNEL OF THE ODRA RIVER	
15:15	15:30	6	Filippo Bonfiglietti, Antonio Brenchich
		HISTORY OF A FAULTY RETROFITTING: THE S. SEBASTIAN BRIDGE IN LOANO (ITALY)	
General discussion & closing ceremony			
15:30	17:00	Chairs: Charles Abdunur, Jan Bień, Jan Biliszczuk, Baochun Chen, Matthew Gilbert, Clément Molins	
		Room: 10AC	

Exhibitors

	
 <p style="font-size: 24px; font-weight: bold;">MIASTO TORUŃ</p>	<p style="font-size: 12px;">KOŁO NAUKOWE</p>  <p style="font-size: 12px;">MŁODZI MOSTOWCY PWR</p>

Evening Events



Welcome reception

Place: **City Arsenal**

Address: **ul. Cieszyńskiego 9, 50-136 Wrocław**

Date: **5th October (WEDNESDAY)**, Time: **19:00 - 21:00**

- Welcome of participants
- Music concert



Gala dinner

Place: **Town Hall**

Address: **Rynek 1, 50-107 Wrocław**

Date: **6th October (THURSDAY)**, Time: **19:00 - 23:00**

- Gala dinner
- Music concert

Excursions



Wrocław sightseeing

Date: **6th October (THURSDAY)**,

Time: **10:30-12:30**

Cost: **30 EUR / 120 PLN**



The city and bridges of Toruń - Technical trip & sightseeing

Date: **8th October (SATURDAY)**

Time: **8:00-20:00**

Cost: **50 EUR / 200 PLN (lunch included)**

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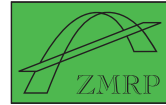
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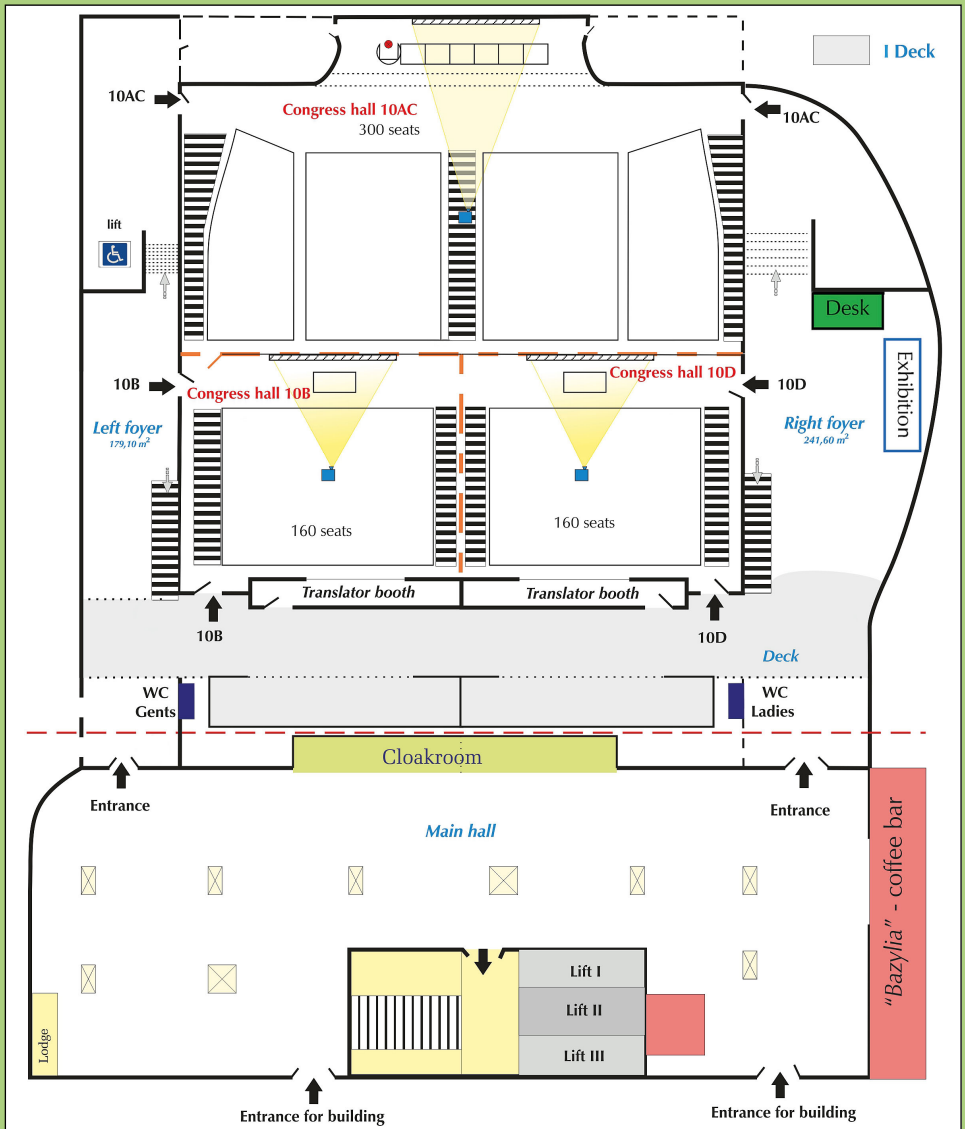
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