

Program of the 14th *fib* PhD Symposium
5th-7th September 2022 - Rome Tor Vergata

Day 0 (Sunday, 4 th)		Ice breaking at Campus X (via di Passo Lombardo 341, Roma Tor Vergata) 18:00 – 19:00		
From	To	Day 1 (Monday, 5 th)	Day 2 (Tuesday, 6 th)	Day 3 (Wednesday, 7 th)
08:00	08:30	Registration	Registration	Registration
08:30	09:00			
09:00	10:00	Opening Ceremony (Welcome by Prof. Orazio Schillaci) & Keynote (Akio Kasuga)	Keynote (Tullia Iori)	Presentation on ReCube Erasmus Plus (Marco di Prisco)
10:00	11:30	Session 1 (4 rooms)	Session 5 (4 rooms)	Session 9 (4 rooms)
11:30	12:00	Coffee break	Coffee break	Coffee break
12:00	13:30	Session 2 (4 rooms)	Session 6 (4 rooms)	Session 10 (4 rooms)
13:30	14:30	Lunch	Lunch	Lunch
14:30	16:00	Session 3 (4 rooms)	Session 7 (4 rooms)	Structural Concrete Journal writing training / Meeting Scientific Committee 16:00 - Closing Ceremony + Awards 17:00 - ReCube Erasmus Plus Work in progress 18:30 - Closing drink
16:00	16:30	Coffee break	Coffee break	
16:30	18:00	Session 4 (4 rooms)	Session 8 (4 rooms)	
18:00	19:00	Meeting Scientific Committee	Meeting Scientific Committee	
19:30	22:30		Social Dinner	

AWARDING SPONSORS



SPONSORS





DAY 1		MAIN ROOM	
09:00 – 10:00		OPENING CERIMONY	
09:00		<i>Welcome</i> - Marco di Prisco (<i>fib</i> Coordinator and Chairman of the Scientific Committee)	
		<i>Welcome</i> - Orazio Schillaci (Rector of Tor Vergata University)	
		<i>Meaning of the PhD Symposium and its history</i> - G. L. Balázs (<i>fib</i> PhD Symposium founder)	
		<i>Meaning of the PhD Symposium event for fib</i> - A. Kasuga (<i>fib</i> President)	
		<i>Welcome from fib Italy YMG</i> - M. Del Zoppo (<i>fib</i> Italy YMG President)	
		<i>Organisation details</i> - A. Meda (Coordinator of the Organising Committee)	
09:20		Keynote - Akio Kasuga “Impact of carbon neutrality on structural concrete - Not a risk but an opportunity”	

DAY 2		MAIN ROOM	
09:00 – 10:00		Keynote – Tullia Iori “Visionary ideas by Sergio Musmeci”	

DAY 3		MAIN ROOM	
09:00 – 09:15		David Fernandez-Ordoñez (fib Secretary General) “fib for PhD students”	
09:15 – 10:00		Keynote - Marco di Prisco “REcube: REthink , REvive , REuse Transmitting the knowledge for the green regeneration of the European Concrete Heritage”	
14:30 – 16:00		Structural Concrete Journal writing training- L. Taerwe (SCJ Editor-in-Chief)	
16:00 - 17:00		CLOSING CEREMONY	
17:00 - 18:30		ReCube Erasmus Plus - Work in progress	
18:30 - 19:30		Closing drink	

DAY 1		ROOM LEONARDO	
SESSION 1	STRUCTURAL ANALYSIS AND DESIGN	Chairs: A. Kasuga, M. di Prisco, M. Del Zoppo	
10:00	<i>A new perspective on the punching resistance of edge columns with and without shear reinforcement applying refined measurement techniques</i>	Diego Hernández Fraile Aurelio Muttoni	
10:30	<i>Geometric characteristics of flexural-shear cracks of reinforced concrete members without shear reinforcement</i>	Jiandong Lu Yuguang Yang Max A.N. Hendriks	
11:00	<i>Effect of steel ties' layout and corrosion on structural behavior of Gerber half-joints</i>	Filippo Molaioni Zila Rinaldi	
11:30	Coffee break		
SESSION 2	STRUCTURAL ANALYSIS AND DESIGN	Chairs: K. Bergmeister, A. Meda, G. Minafò	
12:00	<i>An in-situ experimental test on a reinforced concrete beam: test design and main results</i>	Guglielmo Amendola Paolo Castaldo Giuseppe Mancini Elena Tetta Giulia Lastrico Massimo Gammino Auro Palastanga Giuseppe Pasqualato Christian Bonaldi Maurizio Deiana	
12:30	<i>High performance-fibre reinforced concrete as a high performance and cost-effective solution for precast concrete bridges</i>	Rafael Ruiz Leonardo Todisco Hugo Corres	
13:00	<i>Robustness analysis of reinforced concrete structures: design issues</i>	Elena Miceli Paolo Castaldo	
13:30	Lunch		
SESSION 3	STRUCTURAL ANALYSIS AND DESIGN	Chairs: A. Muttoni, F. Parisi, S. Labò	
14:30	<i>Experimental investigation of the influence of stirrup spacing on the shear capacity of reinforced concrete beams with small amounts of shear reinforcement</i>	Frederik Autrup Henrik Brøner Jørgensen Linh Cao Hoang	
15:00	<i>Shear tests on reinforced concrete beams focused on the transition of beams with and without shear reinforcement</i>	Christoph Betschoga Daniel Gheorghiu Sebastian Rosenhahn Josef Hegger Nguyen Viet Tue	
15:30	<i>Shear tests on continuous reinforced concrete beams with different M/V ratios</i>	Daniel Gheorghiu Yolcu Sever Christoph Betschoga Nguyen Viet Tue	
16:00	Coffee break		
SESSION 4	STRUCTURAL ANALYSIS AND DESIGN	Chairs: D. Fernández-Ordóñez, B. Belletti, G. Minafò	
16:30	<i>Probabilistic robustness assessment of precast reinforced concrete buildings</i>	Martina Scalvenzi Simone Ravasini Emanuele Brunesi Fulvio Parisi	
17:00	<i>Failure and limit states of precast concrete joints under low cycle shear</i>	Edom Zewdie Koichi Maekawa	
17:30	<i>Punching shear behavior of continuous flat slabs - A new test setup incorporating system influences</i>	Matthias Kalus Jan Ungermann Josef Hegger	

DAY 2	ROOM LEONARDO
SESSION 5	STRUCTURAL ANALYSIS AND DESIGN Chairs: H. Corres, Z. Rinaldi, F. Di Carlo
10:00	<i>Optimised strut and tie models for reinforced concrete structures subjected to several limit states</i> Jeff Larsen Peter Noe Poulsen John Forbes Olesen Linh Cao Hoang
10:30	<i>Effect of load path bifurcation on the behavior of reinforced concrete beams</i> Péter Pál Ther István Sajtos
11:00	<i>Asymmetrical loading of reinforced concrete deep beams monitored with full field-of-view digital image correlation</i> Dhanushka K. Palipana Giorgio T. Proestos
11:30	Coffee break
SESSION 6	STRUCTURAL ANALYSIS AND DESIGN Chairs: A. Muttoni, M. Colombo, P. Castaldo
12:00	<i>Flexural performance of UHPC slabs under simultaneous environmental and mechanical loading</i> Salam Al-Obaidi Simone Dicembre Marco Davolio Marco Del Galdo Francesco Lo Monte Liberato Ferrara
12:30	<i>Non-linear analyses of slender RC members: on the assessment of global factors for safety verification</i> Elena Miceli Guglielmo Amendola Costanza Anerdi Diego Gino Luca Giordano
13:00	<i>Numerical study on the behaviour of an innovative concrete dry joint: investigations under shear loading</i> Agemar Manny Robert Renz Albert Albers Lothar Stempniewski Alexander Stark
13:30	Lunch
SESSION 7	STRUCTURAL ANALYSIS AND DESIGN Chairs: G. L. Balázs, M. Menegotto, S. Labò
14:30	<i>Validation of bond models for the crack width estimation based on detailed measurements</i> Enrique Corres Aurelio Muttoni
15:00	<i>Moment redistribution and strain localisation in two-span concrete slab strips reinforced with low strain hardening steel</i> Nathalie Reckinger Karel Thoma Walter Kaufmann
15:30	
16:00	Coffee break
SESSION 8	STRUCTURAL ANALYSIS AND DESIGN Chairs: A. Strauss, F. Minelli, C. Menna
16:30	<i>Experimental investigation of the anchorage capacity of looped wire ropes placed in wall elements for T- and L-connections</i> Torkil Veyhe Henrik B. Joergensen Søren G. Hansen
17:00	<i>Backfilling stabilisation on arched bridges</i> Conrad Pelka Sven Wroblewski Steffen Marx

DAY 3	ROOM LEONARDO
SESSION 9	STRUCTURAL ANALYSIS AND DESIGN Chairs: P. Hajek, Z. Rinaldi, I. Giannetti
10:00	<i>Numerical investigation of shear behavior of prestressed concrete beams without stirrups</i> Yolcu Sever Christoph Betschoga Daniel Gheorghiu (Tue Nguyen Viet)
10:30	<i>Study of tower and fairlead steel-concrete connections of a prestressed concrete spar supporting a 10 MW floating offshore wind turbine</i> Wichuda Munbua Muhammad S. Hasan Rodolfo T. Gonçalves Chikako Fujiyama Koichi Maekawa
11:00	<i>Experimental study of precast wall connection with high strength wire loops</i> Dan Miclăușoiu Gábor-Álmos Sándor Horia Constantinescu Bogdan Hegheș Mihai Nedelcu
11:30	Coffee break
SESSION 10	STRUCTURAL ANALYSIS AND DESIGN Chairs: A. Kasuga, A. Meda, D. Gino
12:00	<i>Effect of loading rate on reinforced concrete walls under dynamic loading</i> Hyeon-Keun Yang Hong-Gun Park
12:30	<i>Digital design of automatically wound shear reinforcement for non-prismatic concrete beams</i> Anna Perepechay Saverio Spadea Eduardo Costa Paul Shepherd
13:00	<i>Application of FSE approach for structural fire safety assessment of car and motor scooter parks</i> Margherita Autiero Enrico Cardellino Donatella de Silva Emidio Nigro
13:30	Lunch

DAY 1	ROOM PITAGORA
SESSION 1	DURABILITY AND MATERIALS Chairs: D. Fernández-Ordóñez, D. Coronelli, D. Gino
10:00	<i>Chloride ingress – investigation of rapid testing methods with focus on their application to new cement compositions</i> Hannah Drenkard Christian Fischer Christoph Gehlen
10:30	<i>Understanding chloride binding capacity and apparent diffusion coefficient to predict the time of corrosion initiation of reinforced geopolymer concrete hollow piles</i> Ali Abdulhasan Khalaf Katalin Kopecskó
11:00	<i>Experimental and numerical investigation on PC beams with artificially corroded post-tensioned tendons</i> Dario De Domenico Matteo Mazzeo Davide Messina Antonino Recupero
11:30	Coffee break
SESSION 2	DURABILITY AND MATERIALS Chairs: A. Bigaj-van Vliet, B. Belletti, A. Conforti
12:00	<i>Applicability of the fib Model Code 2010 for predicting strength and shrinkage behaviour of alkali-activated slag concrete</i> Richard Caron Ravi Patel Frank Dehn
12:30	<i>Mechanical properties and stress-strain response of rubberised one-part alkali-activated concrete</i> Mohamed Elzeadani Dan Bompa Ahmed Elghazouli
13:00	<i>A critical review on structural behavior of alkali-activated concrete beams</i> Zhenxu Qian Eva O. L. Lantsoght Mladena Luković
13:30	Lunch
SESSION 3	DURABILITY AND MATERIALS Chairs: F. Dehn, A. Saetta, L. Pozza
14:30	<i>Mechanical characterization and modelling of ultra-high performance fiber reinforced concrete</i> Sara Basci Matteo Colombo Giulio Zani
15:00	<i>Ageing of ultra-high-performance fibre-reinforced cementitious composites (UHPFRCC): experimental campaign and numerical modelling</i> Antonio Cibelli Giovanni Di Luzio Liberato Ferrara
15:30	<i>Fatigue behavior and effect of stimulated autogenous self-healing in ultra-high performance concrete</i> Niranjan Prabhu K David Alejandro Clerque Vela Yanira Ginori Ocampo Pacheco Francesco Lo Monte Nele De Belie Liberato Ferrara
16:00	Coffee break
SESSION 4	DURABILITY AND MATERIALS Chairs: P. Hajek, L. Ferrara, L. Pozza
16:30	<i>Mechanical performances of thermally-conditioned fabric reinforced cementitious matrix systems</i> Marielda Guglielmi Pietro Mazzuca Luciano Ombres
17:00	<i>Steel and carbon fiber textile reinforced high-strength concrete columns</i> Yedidya M. Shachar Rami Eid Avraham N. Dancygier
17:30	<i>Durability of eco-friendly strain hardening cementitious composite incorporating recycled textile waste fiber and silica fume</i> Payam Sadrolodabae Josep Claramunt Mònica Ardanuy Albert de la Fuente

DAY 2	ROOM PITAGORA
SESSION 5	DURABILITY AND MATERIALS Chairs: A. Strauss, A. Bilotta, A. Conforti
10:00	<i>Investigation of self-healing property of UHPC with sustained loads under aggressive exposure environments</i> Bin Xi Zhewen Huang Salam Al-Obaidi Francesco Lo Monte Liberato Ferrara
10:30	<i>Assessment of prestressed dry joints by X-ray computed tomography</i> Martin Rettinger Peter Gänz Jajnbalkya Guhathakurta Sven Simon Alex Hückler
11:00	<i>Creep and shrinkage of concrete under cyclic ambient humidity conditions</i> Anna-Lena Podhajecky Nadja Oneschkow Michael Haist
11:30	Coffee break
SESSION 6	DURABILITY AND MATERIALS Chairs: J.M. Torrenti, F. Minelli, F. Di Carlo
12:00	<i>The adaptation of the set-up for gas permeability measurements for ultra-high performance concrete</i> Marieke Voigt André Gardei Birgit Meng
12:30	<i>A numerical study of the cracking pattern of reinforced concrete rings under hydrostatic pressure</i> Sébastien Michel András A. Sipos
13:00	<i>Effect of calcined clay minerals on hydration kinetics of tricalcium silicate</i> Hee-Young Hwang Jiseul Park Sung-gul Hong
13:30	Lunch
SESSION 7	DURABILITY AND MATERIALS Chairs: F. Dehn, P. Bamonte, G. Ferrara
14:30	<i>A new testing procedure to quantify unfavourable environmental effect on mechanical performance of composite reinforcement systems</i> Haji Akbar Sultani Arvydas Rimkus Aleksandr Sokolov Viktor Gribniak
15:00	<i>New protocols for the durability assessment of offshore cement-based structures submitted to creep and seawater attack</i> Marinelle El-Khoury Emmanuel Roziere Frederic Grondin Rachid Cortas Fadi Hage Chehade
15:30	<i>Creep and creep recovery behavior of concrete under slow load cycling</i> Marija Docevska Goran Markovski Peter Mark
16:00	Coffee break
SESSION 8	DURABILITY AND MATERIALS Chairs: H. Müller, A. Bilotta, G. Ferrara
16:30	<i>Valorization of Cellulose Acetate Fibers in Mortars</i> Joe Tannous Thouraya Salem Sandrine Marceau Othman Omikrine-Metalssi Teddy Fen-Chong
17:00	<i>Fine aggregate characterization by micro-computed tomography – Sample size and comparability to laboratory test results</i> Sophie Burgmann Wolfgang Breit
17:30	<i>Effect of impressed current technique on the mechanical behaviour of steel reinforcement in concrete</i> Andrea Nino Consiglio Giovanni Muciaccia Dario Coronelli Gianpaolo Rosati

DAY 3	ROOM PITAGORA
SESSION 9	BRIDGES, DAMS AND TUNNELS Chairs: H. Müller, A. Meda, S. Spagnuolo
10:00	<i>Experimental tests and finite element analyses of reduced-scale post-tensioned concrete bridge girders</i> Simone Galano Giacomo Miluccio Daniele Losanno Fulvio Parisi
10:30	<i>Challenges on the shear behavior of existing continuous precast girder bridges</i> Mohammed S. Ibrahim Yuguang Yang Marco Roosen Max A.N. Hendriks
11:00	<i>Numerical analysis of precast concrete segmental bridges for high-speed railway bridges</i> Javier Cañada Perez-Sala Ana M. Ruiz-Teran
11:30	Coffee break
SESSION 10	BRIDGES, DAMS AND TUNNELS Chairs: D. Fernández-Ordóñez, M. di Prisco, G. Zani
12:00	<i>A pushover method for seismic design of integral abutment bridges</i> Andrea Marchi Paolo Franchin
12:30	<i>Structural fire design and assessment of bridges: state of the art</i> Marco Gallo Donatella de Silva Laura De Falco Emidio Nigro
13:00	<i>Design and experimental investigation of longitudinal tunnel lining joints</i> Fabian Morger Walter Kaufmann
13:30	Lunch

DAY 1	ROOM ARCHIMEDE
SESSION 1	RETROFITTING AND ASSESSMENT OF EXISTING STRUCTURES Chairs: G. L. Balázs, G. Plizzari, L. Pozza
10:00	<i>Experimental study of the bond degradation in concrete due to reinforcement corrosion</i> Thomas Van Beirendonck Charlotte Van Steen Els Verstryngne
10:30	<i>Analytical and numerical approaches for the deformation capacity assessment of corroded concrete beams</i> Alberto Stella Anna Saetta
11:00	<i>Dependency of pitting corrosion spatial variability on crack pattern of prestressed concrete members</i> Lorenzo Franceschini Beatrice Belletti Javier Sanchez Francesco Tondolo
11:30	Coffee break
SESSION 2	RETROFITTING AND ASSESSMENT OF EXISTING STRUCTURES Chairs: P. Hajek, G. Plizzari, G. Zani
12:00	<i>Seismic retrofitting of a reinforced concrete building with strongly different stiffness in the main directions</i> Giada Frappa Margherita Pauletta
12:30	<i>A simplified framework for the loss assessment of alternative seismic retrofit options of reinforced-concrete buildings</i> Lucia Praticò Marco Bovo Marco Savoia
13:00	<i>Experimental investigation on confinement of columns with TRC: a comparison between basalt and carbon textile fabrics</i> Giorgio Mattarollo Randl Norbert Margherita Pauletta Edoardo Rossi
13:30	Lunch
SESSION 3	RETROFITTING AND ASSESSMENT OF EXISTING STRUCTURES Chairs: H. Corres, M.R. Pecce, S. Spagnuolo
14:30	<i>Numerical modelling of the bond behaviour in fabric reinforced cementitious matrix strengthened RC members</i> Maria Concetta Oddo Lidia La Mendola Giovanni Minafò
15:00	<i>Strengthening by thermal pre-stressing</i> Jens Löschmann Peter Mark
15:30	<i>Dapped-end beams retrofitted with fabric-reinforced cementitious mortars: experimental and preliminary analytical study</i> Katherina Flores Ferreira Marco C. Rampini Giulio Zani Matteo Colombo Marco di Prisco
16:00	Coffee break
SESSION 4	RETROFITTING AND ASSESSMENT OF EXISTING STRUCTURES Chairs: G. L. Balázs, M. R. Pecce, G. Zani
16:30	<i>Stress transferred at the main shear crack of reinforced concrete beams strengthened with U-wrapped inorganic-matrix composites</i> Veronica Bertolli Tommaso D'Antino
17:00	<i>Shear behaviour of reinforced concrete beams strengthened with ultra-high performance fiber-reinforced concrete under freeze-thaw cycles</i> Yitao Huang Mladena Lukovic
17:30	<i>Enhancing seismic safety of existing RC buildings through external exoskeletons</i> Simone D'Amore Stefano Pampanin

DAY 2		ROOM ARCHIMEDE	
SESSION 5		RETROFITTING AND ASSESSMENT OF EXISTING STRUCTURES	
		Chairs: H. Corres, M. Colombo, L. Pozza	
10:00		<i>Experimental investigation of dowel action using advanced measurement techniques</i>	
		Marko Pejatovic Aurelio Muttoni	
10:30		<i>In plane response of two-storeys infilled reinforced concrete frame using a pseudo-dynamic test framework</i>	
		Carmine Moliterno Ciro Del Vecchio Marco Di Ludovico Andrea Prota	
11:00		<i>Experimental study of crack propagation in a brittle hemispherical dome with two pre-existing cracks</i>	
		Siwen Cao András A. Sipos	
11:30		Coffee break	
SESSION 6		RETROFITTING AND ASSESSMENT OF EXISTING STRUCTURES / COMPOSITES STRUCTURES	
		Chairs: G. L. Balázs, M. di Prisco, L. Pozza	
12:00		<i>Ageing effects on interactions of embedded and externally bonded reinforcement in strengthened concrete structures – experiment and modelling</i>	
		Zhuo Chen Thorsten Leusmann Dirk Lowke	
12:30		<i>Results of ongoing experimental study for verification of long-term properties of FRP reinforced concrete members</i>	
		Stanislav Blaho Katarína Gajdošová	
13:00		<i>Jute fiber mortar composites for integrated retrofitting</i>	
		Arnas Majumder Flavio Stochino Andrea Frattolillo Monica Valdes Fernando Fraternali Enzo Martinelli	
13:30		Lunch	
SESSION 7		HISTORY OF CONCRETE AND ASSESSMENT OF HERITAGE BUILDINGS	
		Chairs: L. Taerwe, F. Romeo, I.G. Colombo	
14:30		<i>Comparing optimization methods for finite element model updating of a reinforced concrete structure</i>	
		Ilenia Rosati Carlo Rainieri Giovanni Fabbrocino	
15:00		<i>A study over Roman mortar from Ovidiu's Roman fortress</i>	
		Nicolae-Costin Mociu Carmen-Elena Maftai Madalina Stanescu	
15:30		<i>The role of structure in the dialogue between places of dwelling in the projects of Gio Ponti</i>	
		Bianca Maria Rodriguez	
16:00		Coffee break	
SESSION 8		COMPOSITE STRUCTURES	
		Chairs: K. Bergmeister, P. Bamonte, S. Labò	
16:30		<i>Numerical modelling of the bond behaviour in uncracked concrete for deformed steel and fibre reinforced polymer bars</i>	
		Szabolcs Szinvai Tamás Kovács	
17:00		<i>Quantification of concrete-concrete interface strength – a review</i>	
		Shozab Mustafa Erik Schlangen Mladena Lukovic	

DAY 3	ROOM ARCHIMEDE
SESSION 9	SUSTAINABILITY AND LIFE CYCLE ASSESSMENT Chairs: A. Bigaj-van Vliet, L. Ferrara, G. Ferrara
10:00	<i>On the use of electric arc furnace slags in concrete for structural applications</i> Alan Piemonti Antonio Conforti Luca Cominoli Antonella Luciano Sabrina Sorlini Giovanni Plizzari
10:30	<i>Evaluation of steel and polypropylene fiber efficiencies for conventional and roller compacted concrete for pavements</i> Onur Öztürk Nilufer Ozyurt
11:00	<i>Effect of slenderness ratio on the environmental impact of piles bored in clayey soil - case study</i> Kareem Abushama Will Hawkins Loizos Pelecanos Tim Ibell
11:30	Coffee break
SESSION 10	SUSTAINABILITY AND LIFE CYCLE ASSESSMENT Chairs: A. Bigaj-van Vliet, Z. Rinaldi, G. Ferrara
12:00	<i>Experimental study of the effect of recycled aggregate and glass fiber reinforced polymer reinforcement on the behaviour of linear concrete members</i> Matej Jurgoš Viktor Borzovič
12:30	<i>How to account for benefits of Self-Healing concrete in design? A LCA/LCC perspective</i> Davide di Summa Liberato Ferrara Nele De Belie
13:00	<i>The effects of inclusion graphene oxide on supplementary cementitious material based cementitious matrix: a review</i> Zaid Khaiqani Katalin Kopeckó
13:30	Lunch

DAY 1	ROOM GALILEO
SESSION 1	INNOVATIONS IN CONCRETE TECHNOLOGY J. M. Torrenti, A. Saetta, I. Giannetti
10:00	<i>Influence of concrete mix composition on the early age concrete strength development</i> Pavel Kasal Jan L. Vitek
10:30	<i>Impacts of aggregate type and elevated temperature on flexural tensile strength of concrete</i> Ahmed M. Seyam Rita Nemes
11:00	<i>The influence of PVA fibres on mechanical properties of foam concrete</i> Jiehong Li Ailar Hajimohammad Taehwan Kim
11:30	Coffee break
SESSION 2	INNOVATIONS IN CONCRETE TECHNOLOGY J. M. Torrenti, D. Coronelli, I. Giannetti
12:00	<i>Steering fiber orientation in concrete for structural applications</i> Filippo Medeghini Giovanni A. Plizzari Peter Mark
12:30	<i>Fibre-reinforced alkali-activated slag concrete: from mechanical properties characterisation to structural design</i> Laura Rossi Ravi A. Patel Frank Dehn
13:00	<i>Performance of single cast-in headed anchors in low-thickness high-performance fibre-reinforced concrete</i> João Baptista Paulo Fernandes Eduardo Júlio
13:30	Lunch
SESSION 3	INNOVATIONS IN CONCRETE TECHNOLOGY Chairs: A. Strauss, A. Bilotta, A. Conforti
14:30	<i>Combined additive manufacturing technology for continuous production of precision concrete elements for modular construction</i> Henrik Funke Marco Lindner Ralf Gliniorz Enrico Rudolph Sandra Gelbrich
15:00	<i>Automated production of textile reinforced concrete modules for the assembly of shell structures</i> Egor Ivaniuk Zlata Tošić Martin Friedrich Eichenauer Steffen Müller Daniel Lordick Viktor Mechtcherine
15:30	<i>Robot assisted flow production processes tool development for the fabrication of thin-walled fibre-reinforced concrete elements</i> Marco Lindner Ralf Gliniorz Henrik Funke Sandra Gelbrich
16:00	Coffee break
SESSION 4	INNOVATIONS IN CONCRETE TECHNOLOGY Chairs: K. Bergmeister, F. Parisi, P. Castaldo
16:30	<i>Artificial neural networks and fuzzy logic applied to concrete rheology for the study of printability</i> Andrea Marcucci Liberato Ferrara
17:00	<i>Near-net-shape extrusion and milling of complex concrete elements for the production of moulds</i> Marvin Abstoß Enrico Rudolph Henrik Funke Sandra Gelbrich
17:30	<i>Using iron-based shape memory alloy rebars as hogging prestress for continuity of hollow core slabs</i> Sandra del Río-Bonnín Luís A. Montoya Coronado Carlos R. Ribas Joaquín G. Ruiz-Pinilla Antoni Cladera

DAY 2		ROOM GALILEO	
SESSION 5		INNOVATIONS IN CONCRETE TECHNOLOGY	
		Chairs: F. Dehn, M. R. Pecce, C. Menna	
10:00	<i>Testing methods for deformation characterization on 3D printed carbon fiber-reinforced cementitious composites</i>	Michael Engelhard Andreas Kalytta-Mewes Dirk Volkmer	
10:30	<i>A comparative study of hardened-state mechanical properties of 3D printed and conventionally cast fibre reinforced concrete</i>	Kasyapa Sriram Kompella Francesco Lo Monte Andrea Bassani Stefano Guanziroli Marinella Levi Liberato Ferrara	
11:00	<i>Investigation of the interlayer strength of 3D printed concrete shear walls</i>	Lucia Licciardello Adriano Reggia Giovanni Metelli Giovanni A. Plizzari	
11:30	Coffee break		
SESSION 6		INNOVATIONS IN CONCRETE TECHNOLOGY	
		Chairs: H. Müller, D. Coronelli, C. Menna	
12:00	<i>Topology optimization of structural beam systems considering 3D concrete printing technology constraints</i>	Lien Saelens Kim Van Tittelboom Robby Caspeepe Roman Wan-Wendner	
12:30	<i>Numerical analysis on stability of cylindrical structures in 3D printing process</i>	Jiseul Park Seung-su Jeong Sung-gul Hong	
13:00	<i>A numerical model of 3D concrete printing</i>	Giacomo Rizzieri Massimiliano Cremonesi Liberato Ferrara	
13:30	Lunch		
SESSION 7		STRUCTURAL RELIABILITY AND RISK ANALYSIS	
		Chairs: A. Muttoni, F. Minelli, M. Del Zoppo	
14:30	<i>Seismic reliability of reinforced moment frame with lateral impact resilient double concave frictional bearings</i>	Gaspar Auad Paolo Castaldo José L. Almazan	
15:00	<i>Probabilistic reliability assessment of cracked concrete</i>	Annika L. Schultheiß Ravi A. Patel Michael Vogel Frank Dehn	
15:30	<i>Seismic scenario analysis of precast reinforced-concrete buildings at the large scale</i>	Lucia Praticò Marco Bovo Nicola Buratti Marco Savoia	
16:00	Coffee break		
SESSION 8		STRUCTURAL RELIABILITY AND RISK ANALYSIS	
		Chairs: L. Taerwe, B. Belletti, P. Castaldo	
16:30	<i>Probabilistic finite element investigation of direct fixings in concrete with discrete aggregates</i>	Nikolaos Mellios Bushra Mustafa Alhussain Yousef Panagiotis Spyridis	
17:00	<i>Probabilistic finite elements of direct fixings in concrete with discrete steel-fibers</i>	Alhussain Yousef Nikolaos Mellios Panagiotis Spyridis	
17:30	<i>Seismic fragility of fibre reinforced concrete using incremental dynamic analysis</i>	Soufiane El Yassari Abdelouafi El Ghoulbzouri	

DAY 3		ROOM GALILEO	
SESSION 9		STRUCTURAL RELIABILITY AND RISK ANALYSIS	
		Chairs: A. Kasuga, P. Bamonte, D. Talledo	
10:00		<i>Determination of uncertainty in the description of crack widths using artificial neural networks</i>	
		Anton van der Esch Rob Wolfs Simon Wijte	
10:30		<i>Evaluation of the model uncertainty of action effects in statically indeterminate systems</i>	
		Xhemi Malja Aurelio Muttoni	
11:30		Coffee break	
SESSION 10		STRUCTURAL HEALTH MONITORING	
		L. Taerwe, M. Menegotto, F. Di Carlo	
12:00		<i>Variational autoencoder and one-class support vector machine for unsupervised damage detection</i>	
		Andrea Pollastro Giusiana Testa Roberto Prevete Antonio Bilotta	
12:30		<i>Criticality maps of built areas based on artificial intelligence applied to satellite data</i>	
		Annalisa Mele Autilia Vitiello Manuela Bonano Andrea Miano Riccardo Lanari Giovanni Acampora Andrea Prota	
13:30		Lunch	