

TIME	MAINSTAGE	ROOM A	ROOM B	ROOM C	ROOM D
12:00	12:00	Start			
12:00	12:25	Opening and welcome speeches			
12:25	13:05	Keynote lecture - Setting on demand for digital concrete Principles, measurements, chemistry and validation <i>Prof. Robert Flatt</i>			
13:05	13:20	Break			
		CCR Special Issue Invited talks	CCR Special Issue Invited talks		
13:20	13:45	3-D printing of concrete: Beyond horizons <i>Mohammad Khan, Florence Sanchez, Hongyu Zhou</i>	From Smart Dynamic Casting to a growing family of Digital Casting Systems <i>Ena Lloret-Fritschi, Timothy Wangler, Lukas Gebhard, Jaime Mata-Falcón, Sara Mantellato Fabio Scotto, Joris Burger, Anna Szaboa, Nicholas Ruffray, Lex Reiter, Federica Boscaro, Walter Kaufmann, Matthias Kohler, Fabio Gramazio, Robert Flatt</i>		
13:45	14:10	A process classification framework for defining and describing Digital Fabrication with Concrete <i>Richard Buswell, Wilson Ricardo Leal da Silva, Freek Bos, Roel Schipper, Dirk Lowke, Norman Hack, Harald Kloft, Viktor Mechtcherine, Tim Wangler, Nicolas Rousset</i>	Opportunities and challenges for structural engineering of digitally fabricated concrete <i>Costantino Menna, Jaime Mata-Falcón, Freek P. Bos, Gieljan Vantghem, Liberato Ferrara, Domenico Aprone, Theo Salet, Walter Kaufmann</i>		
14:10	14:25	Break-out sessions			
		Structural engineering & reinforcement (1)	Rheology & fresh state behaviour (1)	Applications & Case studies (1)	Digital design, Technologies & Industrialization (1)
14:25	14:40	Printed concrete as formwork material: a preliminary study <i>Michiel Bekaert, Kim Van Tittelboom, Geert De Schutter</i>	Numerical Model Describing the Early Age Behavior of 3D Printed Concrete – work in progress <i>Sebastian Andersen, Jens Henrik Nielsen, Ieva Paegla, Wilson Ricardo Leal da Silva</i>	Fast Complexity: Additive Manufacturing of Prefabricated Concrete Slabs <i>Ana Anton, Andrei Jipa, Lex Reiter, Benjamin Dillenburger</i>	3D Concrete Printing - Free form geometries with improved ductility and strength <i>Zeeshan Ahmed, Alessia Biffi, Lauri Hass, Freek Bos, Theo Salet</i>
14:40	14:55	Bond of reinforcement cable in 3D printed concrete <i>Freek Bos, Steven Dezaire, Zeeshan Ahmed, Anne Hoekstra, Theo Salet</i>	Characterisation of the Layer Pressing Strategy for concrete 3D printing <i>Paul Carneau, Romain Mesnil, Nicolas Ducoyombier, Olivier Baverel, Nicolas Rousset</i>		Print Cast Concrete: Additive Manufacturing for 3D Printing Mortar in Robotically Fabricated Green Sand Molds <i>Christopher Battaglia, Martin Miller, Kho Verian</i>
14:55	15:10	Experimental Investigation of Topology-Optimized Deep Reinforced Concrete Beams with Reduced Concrete Volume <i>Josephine Carstensen, Yan Liu, Jackson Jewett</i>	A Compendious Rheo-Mechanical Test for Printability Assessment of 3D Printable Concrete <i>Seung Cho, Jacques Kruger, Frederick Bester, Marchant van den Heever, Algurnon van Rooyen, Gideon van Zijl</i>	A robust mortar and printing system <i>Jan Blaakmeer, Bruno Lobo</i>	3D printing of a cement-based mortar in a complex fluid suspension: Analytical modeling and experimental tests <i>Abdeslam Benamara, Alexandre Pierre, Abdelhak Kaci, Yannick Melinge</i>
15:10	15:25	Studying the Bond Properties of Vertical Integrated Short Reinforcement in the Shotcrete 3D Printing Process <i>Niklas Freund, Inka Dressler, Dirk Lowke</i>	Effect of Metakaolin, Fly ash and Polypropylene Fibres on fresh and Rheological Properties of 3D Printing Based Cement Materials <i>Marie Dedenis, Mohammed Sonebi, Sofiane Amziane, Arnaud Perrot, Giuseppina Amato</i>	Design and Fabrication of a Non-standard, Structural Concrete Column using Eggshell: Ultra-thin, 3D Printed Formwork <i>Joris Burger, Ena Lloret-Fritschi, Nizar Taha, Fabio Scotto, Thibault Demoulin, Jaime Mata-Falcón, Fabio Gramazio, Matthias Kohler, Robert Flatt</i>	Experimental study on 3D printing of concrete with overhangs <i>Francis Brun, Florindo Gaspar, Artur Mateus, João Vitorino, Francisco Diz</i>
15:25	15:40	Aligned interlayer fibre reinforcement and post-tensioning as a reinforcement strategy for digital fabrication <i>Lukas Gebhard, Jaime Mata-Falcón, Ana Anton, Joris Burger, Ena Lloret-Fritschi, Lex Reiter, Benjamin Dillenburger, Fabio Gramazio, Matthias Kohler, Robert Flatt, Walter Kaufmann</i>	"The Slug test": Inline assessment of Yield Stress for ex-trusion-based additive manufacturing <i>Nicolas Ducoyombier, Paul Carneau, Romain Mesnil, Leo Demont, Nicolas Rousset, Jean-François Caron</i>	Complex architecture in printed concrete: the case of the Innsbruck University 350th anniversary pavilion Cohesion <i>Georg Grasser, Lorenz Pammer, Hannah Köll, Emanuel Werner, Freek Bos</i>	Inspection methods for 3D Concrete Printing <i>Richard Buswell, Peter Kinnell, jie Xu, Norman Hack, Freek Bos, Rob Wolfs, Mehdi Maboudi, Georg Grasser, Peter Massin, Harald Kloft</i>
15:40	15:55	Break-out sessions			
15:55	16:05	Science meets Industry			
16:05	16:15	Wrap-up of the day			

TIME	MAINSTAGE	ROOM A	ROOM B	ROOM C	ROOM D
12:00	Start				
12:00	12:40				
	Keynote lecture - Particle bed 3D printing - Future challenges on the way to application in structural concrete <i>Prof. Dirk Lowke</i>				
12:40	12:50				
	Science meets Industry				
12:50	13:30				
	Keynote lecture - Robots are your friends! <i>Prof. Maarten Steinbuch</i>				
13:30	13:45				
	Break				
		Mixture design, admixtures & alternative binders (1)	Rheology & fresh state behaviour (2)	Mechanical performance (1)	Digital design, Technologies & Industrialization (2)
13:45	14:00	An Fe-rich slag-based mortar for 3D printing <i>Glenn Beersaerts, Sandra Lucas, Yiannis Pontikes</i>	Fresh And Hardened Properties Of 3d-Printed Concrete Made With Dune Sand <i>Hilal El-Hassan, Fady alnajar, Hamad Aljassmi, Waleed Ahmed</i>	Quantitative evaluation of orientation of steel fibers in 3D-printed ultra-high performance concrete <i>Ravendran Arunothayan, Behzad Nematollahi, Jay Sanjayan, Ravi Ranade, Shin Hau Bong, Kamal Khayat</i>	DIGITAL CONSTRUCTION: 3D printing for performative houses <i>Paolo Cascone, Maddalena Laddaga, Federico Forestiero</i>
14:00	14:15	Enhancing buildability of 3D printable concrete by spraying of accelerating admixture on surface <i>Shantanu Bhattacharjee, Manu Santhanam</i>	An experimental testing procedure to assess the buildability performance of 3D printed concrete elements <i>Laura Esposito, Costantino Menna, Domenico Asprone, Chiara Rossino, Maurizio Marchi</i>	Steel fibre links in 3D printed concrete <i>Frederick Bester, Marchant van den Heever, Jacques Kruger, Seung Cho, Gideon van Zijl</i>	Extended Lattice Model to Simulate the Printing Process of 3D Printed Cementitious Materials <i>Ze Chang, Erik Schlangen, Branko Šavija</i>
14:15	14:30	Effect of Wollastonite Micro-Fiber Addition on Properties of 3D-Printable 'Just-Add-Water' Geopolymers <i>Shin Hau Bong, Behzad Nematollahi, Ravendran Arunothayan, Ming Xia, Jay Sanjayan</i>	Investigation on the rheological behavior of lightweight foamed concrete for 3D printing applications <i>Devid Falliano, Giuseppe Crupi, Dario De Domenico, Giuseppe Ricciardi, Luciana Restuccia, Giuseppe Andrea Ferro, Ernesto Gugliandolo</i>	Mechanical characterization of cement-based mortar used in 3DCP including early-age creep effects <i>Lorenzo Casagrande, Laura Esposito, Costantino Menna, Domenico Asprone, Ferdinando Auricchio</i>	Quality assessment of printable strain hardening cementitious composites manufactured in two different printing facilities <i>Stefan Chaves Figueiredo, Anne Linde van Overmeir, Karsten Nefs, Erik Schlangen, Theo A. M. Salet, Branko Savija, Akke S. J. Suiker, Freek P. Bos</i>
14:30	14:45	Synthesis of Hybridized Rheological Modifiers for 3D Printing Concretes <i>AlaEddin Douba, Clare Chan, Stephanie Berrios, Shiho Kawashima</i>	Experimental Investigation on the Early Age Tensile Strength of Fiber Reinforced Mortar Used in 3D Concrete Printing <i>Marta Fioretti, Sriram Kasyapa Kompella, Francesco Lo Monte, Laura Esposito, sandro moro, Costantino Menna, Domenico Asprone, Liberato Ferrara</i>	Influence of pumping/extrusion on the air-void system of 3D printed concrete <i>Arnesh Das, Yu Song, Sara Mantellato, Timothy Wangler, Robert Flatt, David Lange</i>	More Than Meets the Eye? Robotisation and Normativity in the Dutch Construction Industry <i>Tom Coggins, Chantal Muishout, Roel Schipper</i>
14:45	15:00	Break-out sessions			
		Structural engineering & reinforcement (2)	Rheology & fresh state behaviour (3)	Mechanical performance (2)	Digital design, Technologies & Industrialization (3)
15:00	15:15	Bending and Pull-Out Tests on a Novel Screw Type Reinforcement for Extrusion-Based 3D Printed Concrete <i>Lauri Hass, Freek Bos</i>	Transition from fluid to solid concrete in the flexible mould process <i>Steffen Grunewald, Roel Schipper</i>	Fire Behavior of a Printed Sample for Building <i>Mélody Dhondt, Sébastien Rémond, Philippe Leblond, Bunthan Iea, Estelle Hynek, Nicolas Pinoteau</i>	Influence of processing parameters on the layer geometry in 3D concrete printing: experiments and modelling <i>Raphael Comminal, Wilson Ricardo Leal da Silva, Thomas Juul Andersen, Henrik Stang, Jon Spangenberg</i>
15:15	15:30	Load carrying capacity and failure mode of 3D printing mortar wall panel under axial compression loading <i>Patiphat Jiramarootapong, Lapyote Prasittisopin, Chalermwut Snguanyat, Ganchai Tanapornraweeekit, Somnuk Tangtermsirikul</i>	Physico-chemical characterization at early-age of 3D printed mortar <i>Ilhame Harbouz, Emmanuel Rozière, Ammar YAHIA, Ahmed Loukili</i>	Effect of Metallic Fibers on the Print Quality and Strength of 3D Printed Concrete <i>Rashid Hameed, Aurélie Papon, Arnaud Perrot, Damien Rangeard</i>	Automating Concrete Construction: Digital Design of Non-Prismatic Reinforced Concrete Beams <i>Eduardo Costa, Paul Shepherd, John Orr, Tim Ibell, Robin Oval</i>
15:30	15:45	Application of 3D printed segments designed by topology optimization analysis to a practical scale prestressed pedestrian bridge <i>Koji Kinomura, Satoshi Murata, Yujin Yamamoto, Hirotohi Obi, Akihito Hata</i>	Gravity driven tests to assess mechanical properties of printable cement-based materials at fresh state <i>Yohan Jacquet, Damien Rangeard, Vincent Picandet, Arnaud Perrot</i>	Facilitating ductile failure of 3D printed concrete elements in fire <i>Jacques Kruger, Antonio Cicone, Frederick Bester, Marchant van den Heever, Seung Cho, Richard Walls, Gideon van Zijl</i>	Free deposition printing for space truss structures <i>Romain Duballet, Nicolas Ducoulombier, Paul Carneau, Leo Demont, Mahan Motamedi, Romain Mesnil, Olivier Baverel, Jean-François Caron, Justin Dirrenberger</i>
15:45	16:00	Potential approaches for reinforcing complex concrete structures with integrated flexible formwork <i>Minu Lee, Jaime Mata-Falcón, Mariana Popescu, Philippe Block, Walter Kaufmann</i>	Characterizing Extrudability For 3D Concrete Printing Using Discrete Element Simulations <i>Roshan Jayathilakage, Jay Sanjayan, Pat Rajeev</i>	High-performance light-weight concrete for 3D printing <i>Malek Mohammad, Eyad Masad, Thomas D. Seers, Sami G. Al-Ghamdi</i>	Rapid Composite Formwork: An Automated and Customizable Process for Freeform Concrete through Computational Design and Robotic Fabrication <i>Guy Gardner, Kristen Forward, Kim Tse, Karan Sharma</i>
16:00	16:15	Break-out sessions			
16:15	16:25	Science meets Industry			
16:25	16:35	Wrap-up of the day			

TIME	MAINSTAGE	ROOM A	ROOM B	ROOM C	ROOM D
12:00	Start				
		CCR Special Issue Invited talks	CCR Special Issue Invited talks		
12:00	12:25	Extrusion-based additive manufacturing with cement-based materials – Production steps, processes, and their underlying physics: A review <i>Viktor Mechtcherine, Freek Bos, Arnaud Perrot, Wilson Ricardo Leal da Silva, Venkatesh Nerella, Shirin Fataei, Rob Wolfs, Mohammed Sonebi, Nicolas Roussel</i>	Influence of process parameters on the interlayer bond strength of concrete elements additive manufactured by Shotcrete 3D Printing (SC3DP) <i>Harald Kloft, Hans-Werner Krauss, Norman Hack, Eric Herrmann, Stefan Neudecker, Patrick Varady, Dirk Lowke</i>		
12:25	12:50	Numerical simulations of concrete processing: From standard formative casting to additive manufacturing <i>Nicolas Roussel, Jon Spangenberg, Jon Wallevik, Rob Wolfs</i>	Improving printability of limestone-calcined clay-based cementitious materials by using viscosity-modifying admixture <i>Yu Chen, Stefan Chaves Figueiredo, Zhenming Li, Ze Chang, Koen Jansen, Oğuzhan Çopuroğlu, Erik Schlangen</i>		
12:50	13:15	Elastic buckling and plastic collapse during 3D concrete printing <i>Akke Suiker, Rob Wolfs, Sandra Lucas, Theo Salet</i>	On the emergence of 3D printable Engineered, Strain Hardening Cementitious Composites (ECC/SHCC) <i>Victor Li, Freek Bos, Kequan Yu, Wes McGee, Tsz Yan Ng, Stefan Chaves Figueiredo, Karsten Neefs, Viktor Mechtcherine, Venkatesh Nerella, Jinlong Pan, Gideon van Zijl, Jacques Kruger</i>		
13:15	13:30	<i>Break-out sessions</i>			
		Mixture design, admixtures & alternative binders (2)	Rheology & fresh state behaviour (4)	Applications & Case studies (2)	Digital design, Technologies & Industrialization (4)
13:30	13:45	Control of Strand Properties Produced with Shotcrete 3D Printing by Accelerator Dosage and Process Parameters <i>Inka Dressler, Niklas Freund, Dirk Lowke</i>	Investigation on Structural Build-up of 3D Printable Foam Concrete <i>Viacheslav Markin, Irina Ivanova, Shirin Fataei, Silvia Reijßig, Viktor Mechtcherine</i>	Shotcrete 3D Printing technology for the fabrication of slender fully reinforced freeform concrete elements with high surface quality: A real-scale demonstrator <i>Norman Hack, Harald Kloft</i>	Simultaneous Reinforcement of Concrete While 3D Printing <i>Omar Geneidy, Sujay Kumarji, Alexandre Dubor, Aldo Sollazzo</i>
13:45	14:00	Comparison of Printable Inorganic Binders - Key Properties for 3D Printable Materials <i>Tamino Hirsch, Tobias Dorn, Clemens Ehm, Dietmar Stephan</i>	Effect of cement type and limestone powder content on extrudability of lightweight concrete <i>Carla Matthäus, Daniel Back, Daniel Weger, Thomas Kränkel, Jennifer Scheydt, Christoph Gehlen</i>	UHPFRC Pavilion of 3-dimensional pentagon tiling <i>Sung-Gul Hong, John Juhyung Chun, Sung-Hoon Kang, Minsoo Kim</i>	Additive manufacturing by extrusion of lightweight concrete - strand geometry, nozzle design and layer layout <i>Klaudius Henke, Daniel Talke, Carla Matthäus</i>
14:00	14:15	Design of energy-efficient white portland cement mortars for digital fabrication <i>Sibel Kurt, Berrak Avcıoğlu, Tayfun Yıldırım, Zeynep B. Bundur, Halime Paksoy, Eray Aydın, Yiğit Alper Atalay</i>	Numerical modeling of an extrusion-based 3D concrete printing process considering a spatially varying pseudo-density approach <i>Meron Mengesha, Albrecht Schmidt, Luise Göbel, Tom Lahmer, Carsten Könke</i>	Field Considerations for Deploying Additive Construction <i>Megan Kreiger, Brandy Diggs-McGee, Tanner Wood, Eric Kreiger, Bruce MacAllister</i>	Extrusion Nozzle Shaping for Improved 3DP of Engineered Cementitious Composites (ECC/SHCC) <i>Wes McGee, Tsz Yan Ng, Kequan Yu, Victor Li</i>
14:15	14:30		Evaluating the influence of aggregate content on pumpability of 3D printable concrete <i>Manu K. Mohan, A. V. Rahul, Kim Van Tittelboom, Geert De Schutter</i>	Sustainable Reinforced Concrete Beams: Mechanical Optimisation and 3D-Printed Formwork <i>Sébastien Maitenaz, Romain Mesnil, Paul Onfroy, Nicolas Metge, Jean-François Caron</i>	Buildability of geopolymers concrete for 3D printing with microwave heating <i>Shravan Muthukrishnan, Sayanthan Ramakrishnan, Jay Sanjayan</i>
14:30	14:45	Architectonic Explorations of the Possibilities of 3D Concrete Printing <i>Juliette Bekkering, Sjeff van Hoof, Barbara Kuit, Zeeshan Ahmed, Alessia Biffi</i>	2D numerical modelling of particle-bed 3D printing by selective paste intrusion <i>Alexandre Pierre, Daniel Weger, Dirk Lowke, Arnaud Perrot</i>	Thermal and Sound Insulation of Large-scale 3D Extrusion Printing Wall Panel <i>Lapyote Prasittisopin, Kittisak Pongpaisanseree, Patiphat Jiramarootapong, Chalermwut Snguanyat</i>	High-resolution Additive Formwork for Building-Scale Concrete Panels <i>Roberto Naboni, Luca Breseghella</i>
14:45	15:00	<i>Break-out sessions</i>			
		Mixture design, admixtures & alternative binders (3)	Structural engineering & reinforcement (3)	Mechanical performance (3)	Digital design, Technologies & Industrialization (5)
15:00	15:15	Use of the Chemical and Mineral Admixtures to Tailor the Rheology and the Green Strength of 3D Printing Cementitious Mixtures <i>Mohammad Amin Moeini, Masoud Hosseini, Ammar YAHIA</i>	Penetration Reinforcing Method for 3D Concrete Printing <i>Taylor Marchment, Jay Sanjayan</i>	Mechanical Characterization of Layer-by-Layer Interface in Concrete Elements obtained by Additive Manufacturing <i>Rosanna Napolitano, Costantino Menna, Domenico Asprone, Lorenzo Del Giudice</i>	Architectural applications and workflows for additive fabrication with concrete <i>Sven Pfeiffer, Tobias Dorn, Tamino Hirsch, Dietmar Stephan, Vassiliadis Dimitrios</i>
15:15	15:30	Characterising Concrete Mixes For 3d Printing <i>Atteyeh Natanzi, Ciaran McNally</i>	Combining multiple loads in a topology optimization framework for digitally fabricated concrete structures <i>Tommaso Pastore, Costantino Menna, Domenico Asprone</i>	Dynamic behaviour of Layered 3D printed concrete elements <i>Rosanna Napolitano, Costantino Menna, Daniele Forni, Domenico Asprone, Ezio Cadoni</i>	ACDC: The Admixture Controlled Digital Casting and its Application to Thin Folded Concrete Structures <i>Anna Szabo, Lex Reiter, Ena Lloret Fritschi, Timothy Wangler, Fabio Gramazio, Matthias Kohler, Robert Flatt</i>
15:30	15:45	Digital Fabrication with 'Just-Add-Water' Geopolymers: Effects of Curing Conditions and Print-time Interval <i>Behzad Nematollahi, Shin Hau Bong, Ming Xia, Jay Sanjayan</i>	Potential for the integration of continuous fiber-based reinforcements in digital concrete production <i>Martin Scheurer, Gözdem Dittel, Thomas Gries</i>	Characterizing the Fissility of 3D Concrete Printed Elements via the Cohesive Zone Method <i>Marchant van den Heever, Frederick Bester, Seung Cho, Mohammad Sadegh Pourbehi, Jacques Kruger, Gideon van Zijl</i>	Robot-Controlled Fabrication of Sprayed Concrete Elements as a Cyber-Physical-System <i>Ilija Vukorep, Gregor Zimmermann, Tino Sablotny</i>
15:45	16:00	<i>Break-out sessions</i>			
16:00	16:10	Science meets Industry			
16:10	16:20	Wrap-up of the day			

TIME	MAINSTAGE	ROOM A	ROOM B	ROOM C	ROOM D
12:00	Start				
		Mixture design, admixtures & alternative binders (4)	Rheology & fresh state behaviour (5)	Mechanical performance (4)	Digital design, Technologies & Industrialization (6)
12:00	12:15	Advances in Binder Jet 3D printing of non-cementitious materials <i>Pietro Odaglia, Vera Voney, Benjamin Dillenburger, Guillaume Habert</i>	Effect of vibration on rheology of concrete for 3D printing <i>Karthik Pattaje Sooryanarayana, Peter Stynoski, David Lange</i>	3D printing of concrete: the influence on chloride penetration <i>Jolien Van Der Putten, Melissa De Volder, Philip Van den Heede, Geert De Schutter, Kim Van Tittelboom</i>	Reinforced Particle-bed Printing by Combination of the Selective Paste Intrusion Method with Wire and Arc Additive Manufacturing – A First Feasibility Study <i>Daniel Weger, Daniel Baier, Alexander Straßer, Sophia Prötting, Thomas Kränkel, Andreas Bachmann, Christoph Gehlen, Michael Zäh</i>
12:15	12:30	Rubber-cement composites for additive manufacturing: physical, mechanical and thermo-acoustic characterization <i>Matteo Sambucci, Marco Valente, Abbas Sibai, Danilo Marini, Alessia Quitadamo, Ettore Musacchi</i>	Prediction of the yield stress of printing mortar ink <i>Vasilis Sergis, Malo Charrier, Claudiane Ouellet-Plamondon</i>	Effects of Heat-curing and E6-Glass Fibre Reinforcement addition in Powder-based 3DP Cement Mortar Specimens <i>Pshtivan Shakor, Shami Nejadi, Nadarajah Gowripalan</i>	Knitted Concrete <i>Helena Westerlind, José Hernandez Vargas</i>
12:30	12:45	Properties of composite modified with limestone powder for 3D concrete printing <i>Szymon Skibicki, Maria Kaszynska, Nawid Wahib, Mateusz Techman, Karol Federowicz, Adam Zielinski, Tomasz Wroblewski, Norbert Olczyk, Marcin Hoffmann</i>	Dynamic and static yield stress determination of cementitious paste with admixtures <i>Karim Zongo, Malo Charrier, Corentin Duval, Claudiane Ouellet-Plamondon</i>	Effect Of Polypropylene Fibres On The Mechanical Properties Of Extrudable Cementitious Materials <i>Thadshajini Suntharalingam, Brabha Nagaratnam, Keerthan Poologanathan, Phil Hackney, Jeffri Ramli</i>	Concrete 3D printing: System development, process planning and experimental results <i>yu wang, Shuaishuai Li, Tian Qin, ying yu, Jianzhuang Xiao</i>
12:45	13:00	Effect of limestone powder substitution on fresh and hardened properties of 3D printable mortar <i>Yaxin Tao, Karel Lesage, Kim Van Tittelboom, Yong Yuan, Geert De Schutter</i>	Penetration study of liquid in powder bed for 3D powder-bed printing <i>Wenqiang Zuo, Chenghao Dong, Emmanuel Keita, Patrick Belin, Nicolas Roussel</i>	Improving the Bonding Adhesion of the Cold Joints of Normal and Lightweight 3D Printing Mortars <i>Kho Verian, Jarran Ashcroft, Matthew Carli, Randall Bright, Eerik Maandi, Avak Avakian, Edouard Baaklini</i>	Shape accuracy evaluation of geopolymer specimens made using particle-bed 3D printing <i>Ming Xia, Behzad Nematollahi, Jay Sanjayan</i>
13:00	13:15	<i>Break-out sessions</i>			
		Mixture design, admixtures & alternative binders (5)	Structural engineering & reinforcement (4)	Mechanical performance (5)	Sustainability, LCA & economical analyses (1)
13:15	13:30	Rheology evaluation of cement paste with nanoclays, nanosilica and polymeric admixtures for digital fabrication <i>Hugo Varela, Gonzalo Barluenga, Irene Palomar</i>	3D concrete printing on site: a novel way of building houses? <i>Jolien Van Der Putten, Marijke Aerts, Emiel Ascione, Jan Blaakmeer, Joeri Beneens, Alex Van Olmen, Geert De Schutter, Kim Van Tittelboom</i>	Interlayer Effect on Fracture Behavior of 3D Printing Concrete <i>Yun-Chen Wu, Jason Cotrell, Mo Li</i>	Environmental Impacts of 6-Axes Robotic Arm for 3D Concrete Printing <i>Kateryna Kuzmenko, Adelaide Feraille, Olivier Baverel, Nicolas Roussel</i>
13:30	13:45	Geopolymer formulation for binder jet 3D printing <i>Vera Voney, Pietro Odaglia, Coralie Brumaud, Benjamin Dillenburger, Guillaume Habert</i>	Design optimization for 3D concrete printing: Improving structural and thermal performances <i>Gieljan Vantghem, Marijke Steeman, Wouter De Corte, Veerle Boel</i>	Auxetic Behavior of Cementitious Cellular Composites under Uniaxial Compression and Cyclic Loading <i>Yading Xu, Erik Schlangen, Branko Šavija</i>	Preliminary Productivity Analysis of Conventional, Precast and 3D Printing Production Techniques for Concrete Columns with Simple Geometry <i>Raitis Pekuss, Borja Garcia de Soto</i>
13:45	14:00	Lightweight Concrete 3D-Printed by Selective Cement Activation – Investigation of Thermal Conductivity, Strength and Water Distribution <i>Daniel Weger, Heejeong Kim, Daniel Talke, Klaudius Henke, Thomas Kränkel, Christoph Gehlen</i>	Flexural Behaviour of AR-glass Textile Reinforced 3D Printed Concrete Beams <i>Weiqliang Wang, Nikolaos Konstantinidis, Simon Austin, Richard Buswell, Sergio Cavalaro, Domenico Cecini</i>	Impact of Particle Size and Grading on Aggregate-bed 3D Concrete Printing <i>Shiwei Yu, Jay Sanjayan, Hongjian Du</i>	Preliminary Study of the Implications of 3D Printing on the Construction Supply Chain <i>Ayyagari Ramani, Borja Garcia de Soto</i>
14:00	14:15	<i>Break-out sessions</i>			
14:15	14:55	Keynote lecture - 3D Concrete printing in a construction industry 4.0 <i>Prof. Theo Salet</i>			
14:55	15:05	Science meets Industry			
15:05	15:45	Keynote lecture - Printing architecture <i>Assoc. Prof. Virginia San Fratello</i>			
15:45	16:15	Closing and Awards			