



第五屆國際材料與結構研究實驗聯合會混凝土智能建造會議暨第六屆3D打印混凝土材料和結構國際會議

**5th RILEM International Conference on Concrete and Digital Fabrication &
6th International Conference on 3D Printing Concrete Materials and Structures**

RILEM DC & 3DPCMS

Tentative Program

**15-21 October 2026
Nanjing, China**

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Overview

Pre-conference					
Date	Oct. 15	Oct. 16	Oct. 17	Oct. 18	
Agenda	Early-registration	Doctoral Course		Registration	TC meetings
Morning		Session 1 @ J-1, Room 311, Southeast University	Session 3 @ J-1, Room 311, Southeast University	9:00~20:00 All day @ Main Hall	RILEM Technical Committee Meeting - 303 PFC @ UPark Room (5th floor)
Noon		Lunch @ Taobei Restaurant (2nd floor)	Lunch @ Taobei Restaurant (2nd floor)		Lunch @ Buffet (1st floor)
Afternoon	15:00~20:00 Registration for attendees of doctoral course @ Main Hall (1st floor)	Session 2 @ J-1, Room 311, Southeast University			RILEM Technical Committee Meeting - 304 ADC @ UPark Room (5th floor)
Evening		Dinner @ Six Gardens Restaurant			Dinner @ Buffet (1st floor)
Venue	Qinhuai South Hotel	Southeast University		Qinhuai South Hotel	

Transportation for the Doctoral Course: All attendees must take the 8:00 a.m. bus from Qinhuai South Hotel to Southeast University. If you miss the bus, you will unfortunately miss the course.

Registration on October 17: Attendees arriving on October 17 may register at the main hall of Qinhuai South Hotel between 15:00 and 20:00.

Conference			
Date	Oct. 19, Day 1	Oct. 20, Day 2	Oct. 21, Day 3
Morning	Keynotes @ Qinhuai Amazing (3rd floor)	Parallel Sessions @ Qinhuai Amazing A (3rd floor), Qinhuai Amazing B (3rd floor), ULake Room (3rd floor), Knowledge Room (5th floor), UPark Room (5th floor)	Parallel Sessions @ Qinhuai Amazing A (3rd floor), Qinhuai Amazing B (3rd floor), ULake Room (3rd floor), Knowledge Room (5th floor), UPark Room (5th floor)
Noon	Lunch @ Buffet (1st floor)	Lunch @ Buffet (1st floor)	Lunch @ Buffet (1st floor)
Afternoon	Parallel Sessions @ Qinhuai Amazing A (3rd floor), Qinhuai Amazing B (3rd floor), ULake Room (3rd floor), Knowledge Room (5th floor), UPark Room (5th floor)	Parallel Sessions @ Qinhuai Amazing A (3rd floor), Qinhuai Amazing B (3rd floor), ULake Room (3rd floor), Knowledge Room (5th floor), UPark Room (5th floor)	Keynotes @ Qinhuai Amazing (3rd floor)
Evening	Dinner @ Buffet (1st floor)	Banquet @ Qinhuai Amazing (3rd floor)	
Venue	Qinhuai South Hotel		

PhD Course

October 16, 2026	
Venue: J-1, Room 311, Southeast University	
8:30-8:40	Welcome Address Yamei Zhang (Professor, Southeast University, China) Nicolas Roussel (Research Director, Gustave Eiffel University, France)
8:40-9:40	Rheology Nicolas Roussel (Research Director, Head of the CPDM Laboratory, Gustave Eiffel University, France)
9:40-10:00	Coffee/Tea break
10:00-11:00	Chemistry of Cementitious Materials Timothy Wangler (Lecturer, Department of Civil, Environmental and Geomatic Engineering, ETH Zürich, Switzerland)
11:00-12:00	Concrete Design, Microstructure and Mechanical Properties Yu Chen (Professor, Southeast University, China)
12:00-12:30	Building Impact Together: Journal of Cement and Concrete Composites's Journey and the Power of Its Authors Nemkumar Banthia (Professor, University of British Columbia, Canada)
12:30-14:00	Lunch (Venue: 2nd floor of Taobei Restaurant)
14:00-15:00	Early Age Deformation Emmanuel Keita (Researcher, Laboratoire Navier, Gustave Eiffel University, France)

15:00-16:00	Durability and Quality Control Inka Mai (Professor, Institute of Building Materials Science, Leibniz Universität Hannover, Germany)
16:00-16:30	Coffee/Tea break
16:30-17:30	AI, Tools and Processes Richard Buswell (Professor of Building Systems Engineering, Loughborough University, United Kingdom)
19:00-21:00	Dinner (Venue: Six Gardens Restaurant)

Bus departure timetable October 16, 2026	
8:00	Qinhuai South Hotel to Southeast University
18:00	Southeast University to Six Gardens Restaurant
21:00	Six Gardens Restaurant to Qinhuai South Hotel

October 17, 2026 Venue: J-1, Room 311, Southeast University	
8:30-9:30	Reinforcement Integration Viktor Mechtcherine (Professor of Construction Materials, TU Dresden, Germany)
9:30-10:30	Structural Behavior Freek Bos (Professor, Technical University of Munich, Germany)
10:30-10:50	Coffee/Tea break
10:50-11:50	Design and Application Harald Kloft (Professor, Institute of Structural Design, TU Braunschweig, Germany)
11:50-12:20	Insights into the Nature Portfolio and the Editorial Process Shuyan Xiong (Associate editor, Nature Communication)
12:20-12:30	Closing Address Viktor Mechtcherine (Professor of Construction Materials, TU Dresden, Germany)
12:30-14:00	Lunch (Venue: 2nd floor of Taobei Restaurant)

Bus departure timetable October 17, 2026	
8:00	Qinhuai South Hotel to Southeast University
14:00	Southeast University to Qinhuai South Hotel

RILEM Technical Committee Meeting

October 18, 2026	
Venue: UPark Room (5th floor), Qinhuai South Hotel	
9:00-12:00	RILEM Technical Committee Meeting - 303 PFC
12:00-14:00	Lunch (Venue: Buffet (1st floor), Qinhuai South Hotel)
14:00-17:00	RILEM Technical Committee Meeting - 304 ADC
18:00-20:00	Dinner (Venue: Buffet (1st floor), Qinhuai South Hotel)

Conference: Day 1

Monday morning, October 19, 2026 Venue: Qinhuai Amazing (3rd floor)	
8:30-9:00	Opening ceremony Host: Yamei Zhang (Chair of the organizing committee, Southeast University)
Plenary Session Chairs: Viktor Mechtcherine, Jay Sanjayan	
9:00-9:30	<u>Mike (Yimin) Xie</u> (Hohai University) Generalized Topology Optimization for Architectural Design
9:30-10:00	<u>Arnaud Perrot</u> (University of Southern Brittany) Earth and Concrete 3D Printing: Similarities, Differences, and Shared Lessons
10:00-10:30	Coffee/Tea break
10:30-11:00	<u>Ena Lloret-Fritschi</u> (Università della Svizzera italiana) Producing the Negative: Toward Circular Concrete Construction
11:30-12:00	<u>Wei She</u> (Southeast University) Material and Process Integrated Design for Lunar In-Situ Construction
12:00-12:30	<u>Venkatesh Nerella</u> (Putzmeister Engineering GmbH) Back to the Future: Load-Bearing On-Site 3D Printing Using Standard Ready-Mix Concrete and Digital Material Supervision
12:30-14:00	Lunch (Venue: Buffet (1st floor))

Monday afternoon, October 19, 2026

Venue: Knowledge Room (5th floor)

Parallel Session 1: Mixture design

Chairs: Paulo Ricardo de Matos, Jie (Jerry) Xu

14:00-14:25	<u>Weiguo Xu</u> (Tsinghua University) AI Design and 3D Printing: A New Way for Building Construction (Invited talk)
14:25-14:40	<u>Paulo Matos</u> (Santa Catarina State University) Cement Reduction in 3DCP via Aggregate Optimization through Design of Experiments (DOE)
14:40-14:55	<u>Chao Liu</u> (Qingdao University of Technology) 3D-Printed Foam Concrete: Rheological Properties, Printability, and Pore Structure
14:55-15:10	<u>Michaël Ramaekers</u> (Ghent University, Student) 3D-printing of Cementitious Oyster Reef Substrates with Optimized Bioreceptivity to Enhance Larval Settlement
15:10-15:25	<u>Xiao Huan</u> (Southeast University, Student) Material Design and Performance of Set-on-Demand Seawater–Sea-Sand Mortar for 2K 3D Printing
15:25-15:40	Coffee/Tea break

Parallel Session 1: Mixture design Chairs: Paulo Ricardo de Matos, Jie (Jerry) Xu	
15:40-15:55	<u>Sándor Sólyom</u> (Budapest University of Technology and Economics) Development and Printability of Alkali-Activated 3D Printable Concrete for 1K Printing
15:55-16:10	<u>Passarin Jongvisuttisun</u> (SCG Cement Co. Ltd.) Interface Bond Strength of Low Carbon 3D Printed LC ³ Mortar–UHPC Hybrid Systems with Reinforcement Strategies
16:10-16:25	<u>Andrei Shpak</u> (SINTEF Community) Development of Extrudable Low-Carbon Concrete for pH-sensitive Reinforcement
16:25-16:40	<u>Yukuan Deng</u> (Nanyang Technological University, Student) Machine-Learning-Based Printability Screening of Cementitious Mixtures Using Fresh-State Indicators and Early-Age Mechanical Descriptors
16:40-16:55	<u>Benedikt Grimm</u> (Technical University of Munich, Student) Towards Sustainable 3D Concrete Printing: Optimizing Binder Systems for Near-Nozzle Binder-Aggregate Mixing
16:55-17:10	<u>Enlai Dong</u> (Southeast University, Student) Optimization Design Principle and Performance Regulation of 3D Printed Ultra-High-Performance Concrete (UHPC)
17:10-17:25	<u>Sourour Elleuch</u> (SIAME Laboratory – University of Pau and the Pays de l'Adour, Student) Effect of Weather Conditions on the Printability of Cementitious Materials for 3D Printing
17:25-17:40	<u>Weijian Xu</u> (The Hong Kong University of Science and Technology, Student) Investigating the Mechanisms of Biochar-Induced Modification of Tricalcium Aluminate Hydration
18:00-20:00	Dinner (Venue: Buffet (1st floor))

Monday afternoon, October 19, 2026 Venue: Qinhuai Amazing A (3rd floor)	
Parallel Session 2: Rheology and Early-age Properties Chairs: Emmanuel Keita, Yiyuan Zhang	
14:00-14:25	<u>Robert Flatt</u>/Matineh Mahmoudid (ETH Zurich) VMAs: Very Mysterious Admixtures for Digital Fabrication (Invited talk)
14:25-14:40	<u>Mehran Khan</u> (University College Dublin) Rheology-Driven Optimisation of Superplasticizer and Fibre Dosage in Low-Carbon Concrete
14:40-14:55	<u>Yiyuan Zhang</u> (Ghent University) Active Magnetorheology Control of Cementitious Materials for 3D Printing
14:55-15:10	<u>Gagan G S</u> (Indian Institute of Technology Tirupati, Student) Effect of Sodium Hexametaphosphate on the Rheology and Dispersibility of Kalonite-Based Earthen Mixtures
15:10-15:25	<u>Shuaijie Lu</u> (Tongji University, Student) Effect of CO ₂ Mixing and Waste Glass Powder on the Performance of 3D Printed Cementitious
15:25-15:40	Coffee/Tea break

Parallel Session 2: Rheology and Early-age Properties Chairs: Emmanuel Keita, Yiyuan Zhang	
15:40-15:55	<u>Hengrui Liu</u> (The Hong Kong Polytechnic University) Kinetic Evolution of the Internal Flocculation-Linkage Network within Cementitious Materials Subject
15:55-16:10	<u>John Temitope Kolawole</u> (University of Birmingham) Filament Skin Contribution to the Layer Interface and Anisotropy of Additively Manufactured Concrete
16:10-16:25	<u>Haodao Li</u> (Shenzhen University) Effect of Viscosity-Modifying Agents on Rheology and Fiber Distribution of 3D-Printed Ultra-High-Performance Concrete
16:25-16:40	<u>Albert Gomzyakov</u> (Dresden University of Technology, Student) Influence of Extrusion-Induced Normal Stresses on the Buildability of 3D-Printed Concrete
16:40-16:55	<u>Weiwei Zhang</u> (City University of Hong Kong, Student) Time-Dependent 3D Printability of One-Part Alkali-Activated Materials
16:55-17:10	<u>Silvia Reißig</u> (Dresden University of Technology, Student) Towards CO ₂ -Assisted Rheology Control in LC ³ -Based 3D Concrete Printing
17:10-17:25	<u>Jielin Tao</u> (City University of Hong Kong, Student) Magneto-Responsive Flow Behavior of Lightweight Concrete for 3D Printing with Magnetic Core-Shell Aggregates
17:25-17:40	<u>Huamin Sun</u> (Southeast University, Student) Effect of Addition Mode of VMA and PCE on Dynamic and Static Yield Stress of Cement Paste
18:00-20:00	Dinner (Venue: Buffet (1st floor))

Monday afternoon, October 19, 2026

Venue: UPark Room (5th floor)

Parallel Session 3: Process Control and Printing Strategies

Chairs: Yaxin Tao, Shravan Muthukrishnan

14:00-14:25	<u>Yaxin Tao</u> (Tongji University) A Process-Oriented Perspective on Multi-K 3D Concrete Printing (Invited talk)
14:25-14:40	<u>Viktor Mechtcherine</u> (Dresden University of Technology) Robotic Fabrication of Curved Concrete Shell Modules Using 3D Concrete Printing on an Adaptive Mold
14:40-14:55	<u>Chao Li</u> (Technical University of Munich) Towards Design Decision Support System in Digital Fabrication with Concrete – Case Study of Knowledge Formalization for SC3DP Ribbed Slab
14:55-15:10	<u>Manuel Megnet</u> (Technische Universität Braunschweig, Student) Enabling Precise Process Control with Flow Rate Measurements for Concrete in Shotcrete 3D Printing
15:10-15:25	<u>Yan Sun</u> (The University of Hong Kong, Student) Spatial Optimization of Fiber Orientation in 3D-Printed FRCC: The Role of Nozzle Geometry and Fiber Parameters
15:25-15:40	Coffee/Tea break

Parallel Session 3: Process Control and Printing Strategies Chairs: Yaxin Tao, Shravan Muthukrishnan	
15:40-15:55	<u>Wen Si</u> (Jinan University) A Comprehensive Review of Rheological Dynamics and Process Parameters in 3D Concrete Printing
15:55-16:10	<u>Kaname Saitoh</u> (Sika Japan Ltd.) Integrated Design and Fabrication of 3D Concrete Printed Wall Structures using FEA and Modular Printing
16:10-16:25	<u>Lingwei Xia</u> (Hohai University) Optimization of Filling Path and Structure for 3D Concrete Printing Under Manufacturing Constraint
16:25-16:40	<u>Ando Jacobi</u> (Technische Universität Berlin, Student) Enroute Towards Surface-Like Structures with I3DCP - Geometric and Mechanical Node Properties Depending on Material and Process Parameters
16:40-16:55	<u>Yuxin Lin</u> (University of Michigan, Student) Data-driven 3D Concrete Printing for Materially Efficient Concrete Structure
16:55-17:10	<u>Jiazhe Chen</u> (Xi'an University of Architecture and Technology, Student) Path Planning for Free-Form 3D Concrete Printing Using Reinforcement Learning
17:10-17:25	<u>Inken Jette Rasehorn</u> (TU Berlin, Student) Optimizing Inter-Filament Bonding via Path Planning in 3DCP (online)
17:25-17:40	<u>Caleb Lunsford</u> (Cornell University, Student) Influencing the Stability of Planar Digitally Fabricated Concrete Overhangs through Process Parameter Control
18:00-20:00	Dinner (Venue: Buffet (1st floor))

Monday afternoon, October 19, 2026

Venue: Qinhuai Amazing B (3rd floor)

Parallel Session 4: Reinforcement and Hardened properties
Chairs: Shunzhi Qian, Rahul Attupurathu Vijayan

14:00-14:25	<u>Shunzhi Qian</u> (Nanyang Technological University) From Printable ECC to Lightweight Reinforced Column by Assembly (Invited talk)
14:25-14:40	<u>Xiaoyu Luo</u> (Chang'an University) Layout of Threaded Rod to Enhance Interfacial Bonding Properties between 3D Printed and Post-Cast Concrete
14:40-14:55	<u>Guido Silva</u> (Pontificia Universidad Católica del Perú) Mechanical Characterization of 3D-Printed Earthen and Cementitious Mortars Using Embedded Sensing
14:55-15:10	<u>Aobakwe Ditlhokwa</u> (Stellenbosch University, Student) Performance Evaluation of 3D Printed Concrete (3DPC) with Construction and Demolition Waste and Recycled 3DPC-Derived Aggregates: Mechanical Properties and Resistance to Carbonation and Chloride Ingress
15:10-15:25	<u>Kailun Xia</u> (Southeast University, Student) Tough, Thermal Insulating and Scalable Puff Pastry-Inspired Architected Cementitious Material via Simple Rolling-Folding
15:25-15:40	Coffee/Tea break

Parallel Session 4: Reinforcement and Hardened properties Chairs: Shunzhi Qian, Rahul Attupurathu Vijayan	
15:40-15:55	<u>Hui Zhang</u> (North University of China) Multiscale Investigation of Inner-Structure and Mechanical Performance in 3D Printed Concrete
15:55-16:10	<u>Yuto Kitamura</u> (Obayashi Corporation) Shear Behavior of Concrete Beams Using 3D Printed Permanent Formwork Reinforced by Continuous Fiber
16:10-16:25	<u>Faisal Mukhtar</u> (King Fahd University of Petroleum & Minerals) 3D Printed Mortar Integrated with Graphene Derivatives for Strain Monitoring
16:25-16:40	<u>Syed Humayun Basha</u> (Huaqiao University) Performance of 3D-Printed High-Strength Concrete Shear Walls under Axial Compressive Loads
16:40-16:55	<u>Arunkumar Senthilmurugan</u> (Indian Institute of Technology Tirupati, Student) Tension Stiffening and Crack Evolution in 3D-Printed Concrete Beams with External TRC Reinforcement Using Digital Image Correlation
16:55-17:10	<u>Min Zhou</u> (University of Sheffield, Student) Using Thin Textile-Reinforced Mortar Overlay as ‘Post-Printing’ Reinforcing Method for 3D-Printed Concrete
17:10-17:25	<u>Spandana Paritala</u> (Indian Institute of Technology, Student) Comparative Analysis of Fracture Response in Cast and 3D Printed Steel Fiber-Reinforced Concrete
17:25-17:40	<u>Xinze Li</u> (China Building Materials Academy, Student) Bond-Slip Mechanism of Longitudinal Reinforcement in 3D Printed Concrete
18:00-20:00	Dinner (Venue: Buffet (1st floor))

Monday afternoon, October 19, 2026

Venue: ULake Room (3rd floor)

Parallel Session 5: Material Circularity and Sustainability

Chairs: Nicolas Roussel, Zhangli Hu

14:00-14:25	Nicolas Roussel (Gustave Eiffel University) Climate Change Contribution of 3D Printing Technologies: The Trade-Off between Material and Process Impacts and Its Dependency on Geometry (Invited talk)
14:25-14:40	<u>Iván Navarrete</u> (Pontificia Universidad Católica de Chile) Particle Size Considerations for Mine Tailings in 3D Printable Mortars: Insights from Chile and Japan
14:40-14:55	<u>Yan Zhou</u> (Changsha University of Science and Technology) Investigation of Thermal and Mechanical Properties of 3D Printable Cementitious Composites Incorporating Basalt Fiber and Waste Glass Aggregates
14:55-15:10	<u>Yukuan Deng</u> (Nanyang Technological University, Student) Sustainable Construction through Biomimicry in 3D Printed Concrete Structures
15:10-15:25	<u>Md Tareq Hossain Khondoker</u> (University of New South Wales, Student) Prediction of Buildability of Low-Carbon Mixes for 3D-Printing Based on Penetration Test
15:25-15:40	Coffee/Tea break

Parallel Session 5: Material Circularity and Sustainability Chairs: Nicolas Roussel, Zhangli Hu	
15:40-15:55	<u>Muhammad Junaid Munir</u> (Jinan University) Plastic Waste–Based Concrete Produced by Compression Casting: Structural Performance Enhancement and Environmental Gains
15:55-16:10	<u>Lucio Blandini</u> (University of Stuttgart) Sustainable Mineral Structures: Lines of Research on Circular and Bio-Based 3D Printing Processes
16:10-16:25	<u>Syed Minhaj Saleem Kazmi</u> (Jinan University) Holistic Assessment of Sustainable Forced-Compacted Concrete with 100% Incinerator Bottom Ash: Performance Enhancement, Life Cycle and Economic Insights
16:25-16:40	<u>Jiapan Sun</u> (Tongji University, Student) 3D Printability Verification of Metakaolin–BIBA Based Alkali-Activated Mortar
16:40-16:55	<u>Niklas Meier</u> (Technische Universität Braunschweig, Student) Reuse of Unbound Material in 3D Concrete Printing by Selective Cement Activation
16:55-17:10	<u>Janitha Migunthanna</u> (Swinburne University of Technology, Student) Performance of Waste Clay Brick–Based Binders and Recycled Glass Aggregates in Concrete 3D Printing
17:10-17:25	<u>Miguel Otero Sáenz de Lubiano</u> (AIMEN Technology Centre, Student) 3D Printing of Bio-Based Mortars with Advanced Functionalities for Sustainable Modular Construction
18:00-20:00	Dinner (Venue: Buffet (1st floor))

Conference: Day 2

Tuesday morning, October 20, 2026 Venue: Knowledge Room (5th floor)	
Parallel Session 6: Numerical simulation Chairs: Liberato Ferrara, Yiwei Weng	
8:30-8:55	<u>Liberato Ferrara</u> (Politecnico di Milano) A Unified Modelling Framework for Simulating Extrusion, Layer Deposition and Buildability in 3D Concrete Printing (Invited talk)
8:55-9:10	<u>Juba Amrioui</u> (Polytech Tours) Asymmetric Static Mixer for 2K Mortar and Adjuvant in 3D Concrete Printing: CFD-Optimized Design for Enhanced Mixing
9:10-9:25	<u>Passarin Jongvisuttisun</u> (Thammasat University) Seismic Performance of 3D-Printed Walls with and Without Internal Bracing: A Numerical Investigation
9:25-9:40	<u>Manfang Lin</u> (Tongji University, Student) Comprehensive Numerical Insights into Rebar-Free 3D-Printed ECC Arches
9:40-9:55	<u>Hamed Sadaghian</u> (Loughborough University, Student) Numerical Investigation of Anisotropy in High- Performance 3D-Printed Concrete under Compression
9:55-10:25	Coffee/Tea break

Parallel Session 6: Numerical simulation Chairs: Liberato Ferrara, Yiwei Weng	
10:25-10:40	<u>Maxime Pierre</u> (Université Gustave Eiffel) A Multiphysics Modelling Software for 3D Concrete Printing Simulation from Deposition to Hardened State
10:40-10:55	<u>Katarzyna Ostapska</u> (SINTEF) Buildability Simulation for Sustainable AM Concrete
10:55-11:10	<u>Daniel Helmuth Meile</u> (Technical University of Denmark, Student) Sequential Multi-Material Extrusion Additive Manufacturing of Cementitious Materials
11:10-11:25	<u>Tiangang Ren</u> (The University of Manchester, Student) A Modified Concrete Damage Plasticity (CDP) Model for the Analysis of 3D-Printed Concrete Structures
11:25-11:40	<u>Koussay Daadouch</u> (Ruhr University Bochum, Student) 3D Concrete Printing: Towards Reliable Structural-Scale Simulations
11:40-12:20	Pitch poster
12:20-14:00	Lunch (Venue: Buffet (1st floor))

Tuesday morning, October 20, 2026 Venue: Qinhuai Amazing A (3rd floor)	
Parallel Session 7: Rheology and Early-age Properties Chairs: Deyu Kong, John Kolawole	
8:30-8:55	<u>Wengiang Zuo</u> (Southeast University) Drying-Induced Damages in Exposed Fresh Cement-Based Materials at Very Early Ages from Standard Casting to 3D Printing (Invited talk)
8:55-9:10	<u>Rafael Giuliano Pileggi</u> (University of São Paulo) Relationship Between Squeeze Flow Behavior and Printability of Cement-Based Compositions for 3D Printing
9:10-9:25	<u>Junli Liu</u> (The Hong Kong Polytechnic University) Using CO₂ Flash Mixing to Achieve Rapid Rheological Modification of 3D-printed Mortar in 2K System
9:25-9:40	<u>Tiago Canavarro Cavalcante</u> (Federal University of Rio de Janeiro, Student) Effects of Pumping and Extrusion on the Rheological Properties of Cement-Based Printable Mortars
9:40-9:55	<u>Yi Zhang</u> (Ghent University, Student) Pore Structure of 3D Printed Porous Cement-Based Materials Before and After Extrusion
9:55-10:25	Coffee/Tea break

Parallel Session 7: Rheology and Early-age Properties Chairs: Deyu Kong, John Kolawole	
10:25-10:40	<u>Jacquet Yohan</u> (Technical University of Denmark) The “Beam-Bending Test” – Capturing Fresh-State Damage to Address Quality and Durability
10:40-10:55	<u>Ruilong Li</u> (The Hong Kong Polytechnic University) Evolutionary Behaviour of the Biaxial Strength Envelope of 3D-printed Concrete at Early Ages
10:55-11:10	<u>Shengbo Cheng</u> (Technical University of Munich, Student) Printability Assessment of a 2x2-materials Matrix for Functionally Graded 3DCP
11:10-11:25	<u>Maria J. Cuevas-Mansilla</u> (Pontificia Universidad Catolica de Chile, Student) Dual Role of Steel Microfibers in 3D Concrete Printing: Reinforcement and Temperature Sensitivity Reduction
11:25-11:40	<u>Hao Zhang</u> (National University of Singapore, Student) Characterization on Fresh Properties and Numerical Simulation of Underwater 3D Concrete Printing at Varying Water Depths
11:40-12:20	Pitch poster
12:20-14:00	Lunch (Venue: Buffet (1st floor))

Tuesday morning, October 20, 2026

Venue: UPark Room (5th floor)

Parallel Session 8: Process Control and Printing Strategies

Chairs: Li Wang, Inka Mai

8:30-8:55	<u>Li Wang</u> (Hebei University of Technology) Forming-Performance Synergistic 3D Printing Technology and Equipment of Low-carbon Concrete (Invited talk)
8:55-9:10	<u>Kolluru V.L. Subramaniam</u> (Indian Institute of Technology Hyderabad) Carbon Nanotubes for Functionalized Interfaces with Enhanced Stress Transfer and Penetration Resistance in Printed Layered Assemblies
9:10-9:25	<u>Rijiao Yang</u> (Zhejiang University) A Bionic Swallow Nest Strategy for Unsupported Pneumatic 3D Printing of Concrete
9:25-9:40	<u>Christopher Watson</u> (University of Michigan, Student) Functionally Graded Lattice Walls via Continuous Eulerian Toolpaths for Robotic 3D Concrete Printing
9:40-9:55	<u>Stefan Zimmermann</u> (ETH Zurich, Student) The Rock'N'Roll Band: A Compact Setup to Study 3DCP Layer Deposition and Its Monitoring
9:55-10:25	Coffee/Tea break

Parallel Session 8: Process Control and Printing Strategies Chairs: Li Wang, Inka Mai	
10:25-10:40	<u>Lizhi Zhang</u> (Southeast University) Roll-Pressing Additive Manufacturing of Lunar Building Materials for In-Situ Construction
10:40-10:55	<u>Satoshi Murata</u> (Taisei Corporation) Field Verification of RC Walls Using External Shoring-Free 3D Concrete Printing Formwork with Productivity Effects of Material and Construction Conditions
10:55-11:10	<u>Yuhan Li</u> (Xi'an Jiaotong-Liverpool University, Student) Fractal-Based Toolpath in 3D Concrete Printing for Freeform Lattice Shell Structures
11:10-11:25	<u>Dmitrii Sokolov</u> (Dresden University of Technology, Student) A Virtual Testbed for Motion-Coupled Layer Geometry Generation in 3D Concrete Printing
11:25-11:40	<u>Wenyu Lin</u> (Hebei University of Technology, Student) Thermal-Responsive In-Situ Polymerization for Dense Reinforcement of 3D Printed Concrete
11:40-12:20	Pitch poster
12:20-14:00	Lunch (Venue: Buffet (1st floor))

Tuesday morning, October 20, 2026
Venue: Qinhuai Amazing B (3rd floor)

Parallel Session 9: Reinforcement and Hardened properties
Chairs: Viktor Mechtcherine, Zhenhua Duan

8:30-8:55	<u>Viktor Mechtcherine</u> (Dresden University of Technology) Concrete Printing with Textile Reinforcement (Invited talk)
8:55-9:10	<u>Sizhe Wang</u> (Nanyang Technological University) Automated Flexible Reinforcement for 3D Printed Concrete Using Continuous Cables
9:10-9:25	<u>Egemen Ertem</u> (Loughborough University, Student) Interpreting the Influence of Defects in 3D Printed Mortar on Compressive Strength under Slant Shear Loading
9:25-9:40	<u>Jianye Chen</u> (Zhejiang University, Student) Performance Study of Mechanically Interlocking Interfaces for 3D-Printed Polymer-Concrete Composite Beam
9:40-9:55	<u>Heinrich Els</u> (Stellenbosch University, Student) Characterizing Unrestrained Drying Shrinkage of 3-Dimensional Printed Concrete with Varying Aggregate to Binder Ratios
9:55-10:25	Coffee/Tea break

Parallel Session 9: Reinforcement and Hardened properties Chairs: Viktor Mechtcherine, Zhenhua Duan	
10:25-10:40	<u>Junjie Zeng</u> (Adelaide University) Bending Behavior of 3D-Printed Functionally Graded Concrete Plates with Synchronized Embedded FRP Grid Reinforcement
10:40-10:55	<u>Akilesh Ramesh</u> (University of Southern Queensland) Enhanced Fire Resistance of Textile-Reinforced 3D-Printed Structures Using Nickel Slag Impregnated Glass Fibre Yarns
10:55-11:10	<u>Fabian Fritz</u> (Technische Universität Wien, Student) Load-Bearing Behaviour of T-Beams with Robotically Fabricated Reinforcement Cages
11:10-11:25	<u>Fei Teng</u> (The Hong Kong Polytechnic University, Student) Automated Multi-material 3D Concrete Printing with Hybrid Reinforcements for Simultaneous Flexural Strength and Ductility Enhancement
11:25-11:40	<u>Beifang Deng</u> (Nanyang Technological University, Student) A Modular and Automated Three-Directional Reinforcement Strategy for 3D Printed Concrete Structures
11:40-12:20	Pitch poster
12:20-14:00	Lunch (Venue: Buffet (1st floor))

Tuesday morning, October 20, 2026

Venue: ULake Room (3rd floor)

Parallel Session 10: Structural Optimization

Chairs: Youbao Jiang, Harald Kloft

8:30-8:55	<u>Chao Liu</u> (Xi'an University of Architecture and Technology) Low-Carbon 3D Printing of Coarse-Aggregate Concrete: Construction and Performance Control (Invited talk)
8:55-9:10	<u>Youbao Jiang</u> (Changsha University of Science and Technology) Mechanical and Energy Storage Characteristics of Interlayer Interlocking 3D Printed Concrete Based on a Novel Nozzle
9:10-9:25	<u>Chung Kin hung</u> (The Hong Kong Polytechnic University) Translating Concrete 3D Printing Research into Public Applications: A Case Study in Hong Kong
9:25-9:40	<u>Gokul Santhosh S</u> (Indian Institute of Technology Madras, Student) Modular 3D Concrete Printed Reinforced Beams
9:40-9:55	<u>Hao Li</u> (Huazhong University of Science and Technology, Student) Early Experimental Study on Heat Dissipation Performance of Concrete Gyroid Porous Structures
9:55-10:25	Coffee/Tea break

Parallel Session 10: Structural Optimization Chairs: Youbao Jiang, Harald Kloft	
10:25-10:40	<u>Wen Zhou</u> (Nanyang Technological University) Anisotropic Topology Optimization for Fiber-Reinforced Concrete Printing
10:40-10:55	<u>Huawei Liu</u> (National University of Singapore) Targeted Enhancement Strategy for the Rebar Interface Bond in 3D Printed Coarse Aggregate Concrete: Performance Evaluation and Mechanistic Insights
10:55-11:10	<u>Marc-Patrick Pflieger</u> (University of Applied Sciences Vienna, Student) Structural Optimization of Reinforced Concrete Slabs with 3D-Concrete Printed Hollow Bodies for Material and CO ₂ Reduction
11:10-11:25	<u>Sven Engel</u> (RWTH Aachen University, Student) Automated Multimodal Fabrication: Integrating Robotic Milling of Fresh 3D-printed Concrete
11:25-11:40	<u>Niklas Mueller</u> (RWTH Aachen University, Student) Robotic Fabrication Methods for Optimized Lightweight Slabs with Foam Concrete Void Formers
11:40-12:20	Pitch poster
12:20-14:00	Lunch (Venue: Buffet (1st floor))

Tuesday afternoon, October 20, 2026

Venue: Knowledge Room (5th floor)

Parallel Session 11: Durability and Microstructure

Chairs: Jinlong Pan, Timothy Wangler

14:00-14:25	<u>Timothy Wangler</u> (ETH Zurich) (Re)Carbonation: A New Opportunity for Sustainable 3D-Printed Concrete (Invited talk)
14:25-14:40	<u>Annie Bai/Nan Zhang</u> (Swinburne University of Technology) Improving Carbonation Resistance of 3D-Printed Concrete Filaments
14:40-14:55	<u>Léopold Denis</u> (Gustave Eiffel University, Student) Carbonation Kinetics in Printed Mortars: A Study of Early-Age Environmental Effects
14:55-15:10	<u>M. Mirza Abdillah Pratama</u> (University of Sheffield, Student) Chloride Transport Behaviour in 3D-Printed Low-Carbon UHPC Incorporating High-Volume of GGBS
15:10-15:25	<u>Yijian Miao</u> (The University of New South Wales, Student) Ultra-Low-Degree-Polymerization Polyvinyl Alcohol as a Crystallization-Catalytic Agent for Self-Healing Concrete
15:25-15:40	Coffee/Tea break

Parallel Session 11: Durability and Microstructure Chairs: Jinlong Pan, Timothy Wangler	
15:40-15:55	<u>Jyotish Kumar Das</u> (University of Sheffield) Role of Corrosion Inhibitors on Chloride Transport Mechanism in 3D-Printed Concrete Under Combined Chloride-Sulphate Exposure
15:55-16:10	<u>Minxin Yang</u> (The Hong Kong Polytechnic University) Non-Destructive and Real-Time Detection of Surface Moisture via Near-Infrared Spectroscopy in 3D Printed Concrete
16:10-16:25	<u>Léopold Denis</u> (Gustave Eiffel University, Student) Effect of Printing Pressure on the Morphology and Size Distribution of Entrained Air in 3D-Printed Mortars
16:25-16:40	<u>Qian Lin</u> (Southeast University, Student) Moisture Transport Characteristics of 3D-Printed Concrete: Analysis of Capillary Water Uptake Behavior
16:40-16:55	<u>Raja Dilawar Riaz</u> (University of New South Wales, Student) Rapid Chloride Permeability Assessment of 3D-Printed Stay-in-Place (SIP) Formworks with Supplementary Cementitious Materials
18:30-20:30	Banquet (Venue: Qinhuai Amazing (3rd floor))

Tuesday afternoon, October 20, 2026 Venue: Qinhuai Amazing A (3rd floor)	
Parallel Session 12: Rheology and Early-age Properties Chairs: Dirk lowke, Le Teng	
14:00-14:25	<u>Dirk Lowke</u> (Technical University of Munich) A Concept to Combine Rheological Quality Assessment with Reinforcement Integration in 3D Concrete Printing (Invited talk)
14:25-14:40	<u>Le Teng</u> (Southeast University) Synergetic Effect of Viscosity Modifying Admixtures and Polycarboxylate Superplasticizer on Rheological Properties of Cement Paste with Low Water-to-binder Ratio
14:40-14:55	<u>Michael Unterreiner</u> (Technical University of Munich, Student) Microwave Transmission-Based Process Monitoring for Multi-Material Concrete 3D Printing
14:55-15:10	<u>Ruijian Zheng</u> (Southeast University, Student) The Role of Micro-Roughness on the Yield Stress for Cement-Based Suspensions Application to LC³ Type System
15:10-15:25	<u>Paula Heik</u> (Bauhaus-Universität Weimar, Student) Magnetorheological Control of Cementitious Materials Using Hard Magnetic Particles
15:25-15:40	Coffee/Tea break

Parallel Session 12: Rheology and Early-age Properties Chairs: Dirk lowke, Le Teng	
15:40-15:55	<u>Amarteja Kocherla</u> (Federal Institute for Materials Testing and Research) Real-Time Monitoring of 3D Printed Concrete Structures Using Embedded Multi-Modal Sensor Arrays
15:55-16:10	<u>Liangchao Liu</u> (Xi'an University of Architecture and Technology, Student) Effects of CO ₂ Mineralization Synergistic Construction on the Performance of 3D Printed Concrete
16:10-16:25	<u>Seong Jun Ha</u> (Pusan National University, Student) In Process Physicochemical Characterization of 3D Printable Concrete
16:25-16:40	<u>Meng He</u> (Wuhan University of Technology, Student) On-Demand Setting for β -hemihydrate Gypsum 3D Printing via Persulfate Advanced Oxidation
16:40-16:55	<u>Lucia Ferrari/Liberato Ferrara</u> (Politecnico di Milano) Rheological Assessments and Simulation Insights for 3D Printing of Mortar Containing Ceramic Waste
18:30-20:30	Banquet (Venue: Qinhuai Amazing (3rd floor))

Tuesday afternoon, October 20, 2026

Venue: UPark Room (5th floor)

Parallel Session 13: Process Control and Printing Strategies

Chairs: Richard Buswell, Nan Zhang

14:00-14:25	<u>Richard Buswell</u> (Loughborough University) Framing the Future: 3D Concrete Printing, Hybrid Manufacturing and the Role of Artificial Intelligence and Machine Learning (Invited talk)
14:25-14:40	<u>Reza Moini</u> (Princeton University) Principal Component Analysis (PCA) for Assessing Effectiveness of the Pressure-based Feedback Control in Robotic Concrete Additive Manufacturing (online)
14:40-14:55	<u>Liping Lv</u> (Xi'an University of Architecture and Technology, Student) Integrated Multi-Objective Optimization for Multi-Head Collaborative 3D Concrete Printing via a Trinary-Tree Enhanced Genetic Algorithm
14:55-15:10	<u>David Richter</u> (Technical University of Munich, Student) Incremental Redundancy-Aware Motion Planning for Continuous Mobile Extrusion in Constrained Architectural Environments
15:10-15:25	<u>Jennifer Viola Rudolph</u> (Technical University of Braunschweig, Student) Mixing- and Dual-Nozzle Concepts for Shotcrete 3D Printing - Investigations on Material and Strand Homogeneity
15:25-15:40	Coffee/Tea break

Parallel Session 13: Process Control and Printing Strategies Chairs: Richard Buswell, Nan Zhang	
15:40-16:05	<u>Günther Meschke</u> (Ruhr University Bochum) Computational Modeling of 3D Printed Concrete: Extrusion, Deposition and Fiber Orientation (Invited talk)
16:05-16:20	<u>Zibo Zuo</u> (Shanghai Construction Group Co., Ltd.) Monitoring and Control of Large-Scale On-Site 3D Printing Processes
16:20-16:35	<u>Paulo J. S. Cruz</u> (University of Minho) Hybrid Robotic Fabrication of Cementitious Materials: Integrating 3D Concrete Printing and Cable-Based Excision within the Rheological Fabrication Window
16:35-16:50	<u>Matineh Mahmoudi</u> (ETH Zurich, Student) AI-Driven Tool Development for Concrete Printing Expertise Documentation and Transfer
16:50-17:05	<u>Hauke Heeren</u> (Leibniz University Hannover, Student) Print-While-Drive: Mobile 3D Printing with Localization-Error Compensation via As-Built Contour Feedback
17:05-17:20	<u>Ying Wei</u> (Zhejiang University, Student) Fiber Distribution and Migration Behavior in 3D-Printed Fiber-Reinforced Concrete
18:30-20:30	Banquet (Venue: Qinhuai Amazing (3rd floor))

Tuesday afternoon, October 20, 2026
Venue: Qinhuai Amazing B (3rd floor)

Parallel Session 14: Reinforcement and Hardened properties
Chairs: Freek Bos, Wen Zhou

14:00-14:25	<u>Freek Bos</u> (Technical University of Munich) RILEM TC 304-ADC Recommendations for Specimen Preparation, Mechanical and Durability Testing of Cementitious 3D Printed Materials (Invited talk)
14:25-14:40	<u>Shinya Yamamoto</u> (Shimizu Corporation) On-site Printing of Reinforced Column Members Using Material Jetting 3D Concrete Printer
14:40-14:55	<u>Longsheng Wang</u> (Adelaide University, Student) Enhancement of Interlayer Bond Strength Using Interlocked Filaments and Characterization of Their Post-Peak Behavior
14:55-15:10	<u>Valentin Peinhopf</u> (University of Applied Sciences Campus Wien, Student) Experimental and Numerical Investigation of Fiber Optic Sensing Systems in 3D-Printed Concrete Beams
15:10-15:25	<u>Jianhua Cheng</u> (Southeast University, Student) Mechanical Response and Damage Evolution of 3D-Printed ECC Under Dynamic Impact and Elevated Temperature
15:25-15:40	Coffee/Tea break

Parallel Session 14: Reinforcement and Hardened properties Chairs: Freek Bos, Wen Zhou	
15:40-15:55	<u>Erich Rodriguez</u> (Federal University of Santa Maria) Alkali-Activated 3D Concrete Printing for Meter-Scale Application
15:55-16:10	<u>Kaiyuan Zhu</u> (Adelaide University, Student) Anisotropic Electro-Mechanical Behaviour of 3D Printed GNP-enhanced Self-Sensing Cementitious Composites under Compression Using Acoustic Emission and Digital Image Correlation
16:10-16:25	<u>Lien Saelens</u> (Ghent University, Student) Flexural Bond Tests on Hybrid 3D Printed – Cast Concrete Interfaces with Different Bond Improvement Strategies
16:25-16:40	<u>Donghao Zhu</u> (Tongji University, Student) Thermal Treatment of Residual Tuff Mud for 3D Printed Cementitious Material
16:40-16:55	<u>Salwa Belhadi</u> (Ghent University, Student) Portland-Limestone Cement as a Reduced-Clinker, Sole Binder for Extrusion-Based 3D Concrete Printing
18:30-20:30	Banquet (Venue: Qinhuai Amazing (3rd floor))

Tuesday afternoon, October 20, 2026

Venue: ULake Room (3rd floor)

Parallel Session 15: Structural Optimization

Chairs: Hailong Wang, Jacquet Yohan

14:00-14:25	<u>Hailong Wang</u> (Zhejiang University) Optimization and Engineering Applications of 3D Concrete Printing Technology (Invited talk)
14:25-14:40	<u>Philip Tarek Wehbe</u> (Carinthia University of Applied Sciences) Material Savings for Bored Piles Using 3D-Printed Recess Formers
14:40-14:55	<u>Patiphat Jiramarootapong</u> (SCG Cement Co., Ltd.) Structural Behavior of 3D Printing Formwork: As a Partial Load-Carrying Element in Residential Concrete Columns
14:55-15:10	<u>Elisabeth Radl</u> (University of Applied Sciences Vienna, Student) Increasing Punching Shear Capacity of Flat Slabs Using 3D Concrete Printed Permanent Formwork Elements
15:10-15:25	<u>Christiane Richter</u> (Technical University of Munich, Student) A Multi-fidelity Workflow for Digital Concrete: Integrating Rapid Equilibrium Form-Finding with Continuum FEM Evaluation
15:25-15:40	Coffee/Tea break

Parallel Session 15: Numerical simulation Chairs: Hailong Wang, Jacquet Yohan	
15:40-15:55	<u>Zhenbang Liu</u> (Nanyang Technological University) Apply Mesoscale Numerical Simulation Method to Study Relationship between Pore Property and Mechanical Anisotropy of 3D Concrete Printing Deposited Layer
15:55-16:10	<u>Teck Neng Wong</u> (Nanyang Technological University Singapore) Computational Fluid Dynamics Simulations of the Effects of Flow Conditions in 3D Concrete Printing
16:10-16:25	<u>Mohammad Olabi</u> (Technical University of Munich, Student) Structural Assessment of Layer-wise Form-found 3D Printed Vaulted Structures
16:25-16:40	<u>Hao Yu</u> (City University of Hong Kong, Student) Simulating Material Extrusion and Flow in 3D Concrete Printing
16:40-16:55	<u>Youness Abousaid</u> (University of Orleans, Student) Structural Scale Validation of Spherical Penetration Based Green Strength Identification for 3D Printed Mortar Cylinders
16:55-17:10	<u>Jihye Jhun</u> (Nanyang Technological University, Student) Process-Oriented Design of Biochar-Modified 3D Printable Concrete: From Ambient Dosage Window to Wet and Dry Pretreatments
18:30-20:30	Banquet (Venue: Qinhuai Amazing (3rd floor))

Conference: Day 3

Wednesday morning, October 21, 2026 Venue: Qinhuai Amazing A (3rd floor)	
Parallel Session 16: Application and Standardization Chairs: Yan Zhuge, Behzad Nematollahi	
8:30-8:55	<u>Mingcheng Li</u> (Kenyo Tech Middle East 3D Printing Factory Ltd.) Case Introduction of Large-Scale 3D Concrete Printing in Practice Presentation (Invited talk)
8:55-9:10	<u>Muhammad Usman</u> (National University of Science and Technology) A Novel High Performance Concrete Overlay Approach for Enhancing Interlayer Performance of 3D Printed Concrete
9:10-9:25	<u>Tae-Kyung Kim</u> (Chung-Ang University, Student) Digital Fabrication and Flexural Behavior of Prestressed Concrete Beam with 3D-Printed Concrete Permanent Formwork
9:25-9:40	<u>Wen-Shan Cui</u> (ETH Zurich, Student) Print and Scan - Digital Documentation for Repair Monitoring of 3D-Printed Concrete Structures
9:40-9:55	<u>Markus Colyn</u> (Stellenbosch University) 3D Printed Geopolymer Interlocking Panels as a Sustainable Construction Method for the Global Low Income Housing Market
9:55-10:10	<u>Ruby Gibson</u> (Stellenbosch University, Student) 3D Printable Concrete with Supercapacitance Potential
10:10-10:25	Coffee/Tea break

Parallel Session 16: Mixture design Chairs: Yan Zhuge, Behzad Nematollahi	
10:25-10:40	<u>Romain Mesnil</u> (Institut Polytechnique de Paris) Cross-ply Composites from 3D-Printed Fibre-Reinforced Concrete
10:40-10:55	<u>Jianzhong Lai</u> (Nanjing University of Science and Technology) Equipment Development, Material Design, and Static-Dynamic Mechanical Properties of 3D Printed Concrete
10:55-11:10	<u>Ojas Arun Chaudhari</u> (Research Institutes of Sweden) Bridging Digital Design and Robotic Printing: Case Studies on 3D Concrete Printing of Prefabricated Elements
11:10-11:25	<u>Romain Mesnil</u> (Institut Polytechnique de Paris) Measuring Yield Shear Strains of Fresh 3D Printable Mortars with DIC Pocket Shear Vane Tests: Sample Size and Vane Influence Zone Study
11:25-13:30	Lunch (Venue: Buffet (1st floor))

Wednesday morning, October 21, 2026

Venue: UPark Room (5th floor)

Parallel Session 17: Application and Standardization

Chairs: Bian Wang, Jay Sanjayan

8:30-8:55	<u>Qing Zhang</u> (Holcim Innovation Center) VillaSprint2, the First On-Site 3D Printed Residential Building in France: Learning for the Construction Sector (Invited talk)
8:55-9:10	<u>Gerrit Marius Moelich</u> (Rambøll Denmark A/S. Copenhagen) Conceptual Design of a 160m High Wind Turbine Tower with 3D Concrete Printing
9:10-9:25	<u>Seiichi Kanno</u> (JGC Corporation) On-site Construction of Hybrid Structures Using 3D Concrete Printing: A Case Study for Storage Shelters in a Harsh Environment
9:25-9:40	<u>Qing Zhang</u> (Holcim Innovation Center) Structurally Optimized 3D printed Concrete for a New Era of Marine Construction
9:40-9:55	<u>Linda Nienaber</u> (Stellenbosch University, Student) Calibration of Material Partial Factor for 3D Printed Concrete
9:55-10:10	<u>Qing Zhang</u> (Holcim Innovation Center) Low-Carbon Footprint 3D Printing Inks
10:10-10:25	Coffee/Tea break

Parallel Session 17: Rheology and Early-age Properties Chairs: Bian Wang, Jay Sanjayan	
10:25-10:40	<u>Saya Ramakrishnan</u> (University of Southern Queensland) Performance and CO2 Sequestration Potential of 3D-Printed Structures using Biochar-Carbon sink Concrete
10:40-10:55	<u>Alireza Sepidbar/Maxime Pierre</u> (Université Gustave Eiffel) An In-Line Method for Estimation of Early-Age Stiffness of 3D Concrete Printing
10:55-11:10	<u>Shadi Nazarian</u> (University of Texas at Arlington) Cool Under Fire: Sustainable Design Meets Wildfire Defense
11:10-11:25	<u>Gabriel Comerlato</u> (ETH Zurich, Student) 2K 3D Concrete Printing with Limestone Calcined Clay Binder
11:25-11:40	<u>Hossein Adel</u> (CY Cergy-Paris University, Student) Low-Carbon 3D Concrete Printing Using Glass-Activated Limestone-Clay Systems
11:40-13:30	Lunch (Venue: Buffet (1st floor))

Wednesday morning, October 21, 2026

Venue: Qinhuai Amazing B (3rd floor)

Parallel Session 18: Application and Standardization

Chairs: Tao Ding, Cheng Yu

8:30-8:55	<u>Cheng Yu</u> (Jiangsu Subote New Materials Co., Ltd.) To Measure the Plastic and Drying Shrinkage of 3D Printing Concrete Closer to the Actual Application (Invited talk)
8:55-9:20	<u>Volker Ruitinga</u> (Vertico) Advanced Concrete Printing (Invited talk)
9:20-9:35	<u>Kim Timm</u> (Stellenbosch University) Standardising Digital Production Data for 3D Printed Concrete Walls: Proposed Product Data Templates based on EN ISO 23386/23387
9:35-9:50	<u>Tao Ding</u> (Tongji university) 3D-Printed Functionally Graded Concrete A Novel Perspective on Structure-Function Integration
9:50-10:05	<u>Luca Breseghello</u> (Technical University of Denmark) Functionally Graded 3D-Printed Concrete Façades: Continuous Porosity Control Through Design for Adaptive Building Envelopes
10:05-10:25	Coffee/Tea break

Parallel Session 18: Process Control and Printing Strategies Chairs: Tao Ding, Cheng Yu	
10:25-10:40	<u>Patiphat Jiramarootapong</u> (SCG cement Co.,Ltd) Segmental Bridge Construction Using 3D Printed Formwork with HPC Core for Urban Canal Crossings
10:40-10:55	<u>Liberato Ferrara</u> (Politecnico di Milano) Novel Methodology to Assess Early-Age Interlayer Behaviour in 3D-Printed Concrete Under Mechanical Disturbance
10:55-11:10	<u>Miguel Prieto</u> (RISE Research Institutes of Sweden) Design Integration of Structural, Thermal, and Durability Performance in a Fully Mineral 3D-Printed Ventilated Façade Element
11:10-11:25	<u>David Gierlinger</u> (Graz University of Technology, Student) Structural Design and Testing of a Filigree 3D Printed Concrete Façade Panel
11:25-13:30	Lunch (Venue: Buffet (1st floor))

Wednesday morning, October 21, 2026

Venue: Knowledge room (5th floor)

Parallel Session 19: Reinforcement and Hardened properties

Chairs: Nicolas Ducoulombier, Chao Zhang

8:30-8:45	<u>Lecheng Lu</u> (Xiamen Zhichuangchi Technology Co., LTD) Research on 3D Printed Concrete Synchronous Rebar Planting Method Based on Four-Axis Transverse and Longitudinal Linkage Control
8:45-9:00	<u>Dong Cui</u> (Nanjing University of Science and Technology) Sequence-Dependent Interfacial Evolution in Alternating OPC-AAS 3D Concrete Printing
9:00-9:15	<u>Nicolas Ducoulombier</u> (XtreeE) Fast Modelling of Brittle Failure Probability for the Design of Unreinforced 3D-Printed Formworks
9:15-9:30	<u>Abdul Azziz Al Farhan</u> (Loughborough University, Student) The Productivity Potential of 3DCP - The Canopy
9:30-9:45	<u>Shiqi Wang</u> (The Hong Kong University of Science and Technology, Student) Biochar-Functionalized Lightweight Ultra-High-Performance Concrete for Sustainable Infrastructure
9:45-10:00	<u>Yang Qi</u> (Tianjin University, Student) Performance Regulation and Printing Process Optimization of Shotcrete 3D Printed Fiber-Reinforced Rubber Concrete
10:00-10:25	Coffee/Tea break

Parallel Session 19: Reinforcement and Hardened properties Chairs: Nicolas Ducoulombier, Chao Zhang	
10:25-10:40	<u>Chao Zhang</u> (The Hong Kong University of Science and Technology) Enhancing 3D Printable Concrete by Biochar Integration
10:40-10:55	<u>Aivars Alt</u> (TTK University of Applied Sciences) 3D Concrete Printed Formwork: Early Assessment of Integral Structural and Lost Formwork Functions
10:55-11:10	<u>Pengpeng Jia</u> (Tianjin University, Student) Design and Mechanical Performance Investigation of 3D-Printed Cementitious Composites Modified with Crumb Rubber and Rice Husk Ash
11:10-11:25	<u>Lucas de Lima</u> (ETH Zürich, Student) Creepy Results in 3DCP
11:25-11:40	<u>Jiacheng Xiao</u> (The Hong Kong University of Science and Technology, Student) Unlocking the Latent Reactivity of Steel Slag through Mechanochemical Activation Method
11:40-13:30	Lunch (Venue: Buffet (1st floor))

Wednesday morning, October 21, 2026

Venue: ULake Room (3rd floor)

Parallel Session 20: Durability and Microstructure

Chairs: Nemkumar Banthia, Pan Feng

8:30-8:55	<u>Nemkumar Banthia</u> (The University of British Columbia) Multiscale Interfacial Mechanics and Rheology-Driven Bond Dynamics as they Affect 3D printed Layered Systems (Invited talk)
8:55-9:20	<u>Zijian Jia</u> (Nanjing Tech University) The Coupling Effect of Viscosity Modifying Agents and Printing Process on the Air-Void Structure Formation of 3D Printed Air-Entrained Concrete (Invited talk)
9:20-9:35	<u>Slava Markin</u> (Sika Deutschland CH AG & Co KG) In-Situ Monitoring and Controlling of Plastic Shrinkage in 3D-Printed Concrete Elements
9:35-9:50	<u>Dengyu You</u> (The University of New South Wales, Student) Early-Age Shrinkage-Induced Cracking in 3D Construction Printing
9:50-10:05	<u>Niklas Freund</u> (Technical University of Munich, Student) Effect of Material and Process Parameters on Carbonation Behaviour of Shotcrete 3D Printing Elements
10:05-10:25	Coffee/Tea break

Parallel Session 20: Material Circularity and Sustainability Chairs: Nemkumar Banthia, Pan Feng	
10:25-10:40	<u>Dirk Lowke</u> (Technical University of Munich) Evaluating GGBFS as Cement Substitution in Particle bed 3D Concrete Printing by Selective Cement Activation: Effect on Strength and Temperature Development
10:40-10:55	<u>Ramesh Nayaka</u> (Indian Institute of Technology Dharwad) Thermal Performance and Life Cycle Environmental and Cost Assessment of Low-Carbon 3D Printable Concrete Ink Incorporating Recycled Construction Waste
10:55-11:10	<u>Eric Schönsee</u> (Bundesanstalt für Materialforschung und -prüfung, Student) Small-Scale Tests: Towards Interlayer Bonding Evaluation Using Laser Reflection Intensity
11:10-11:25	<u>Wenjing Yang</u> (Southeast University, Student) Questioning the Protective Role of Bleeding Against Drying-Induced Microstructural Damages
11:25-11:40	<u>Prashant R. Singh</u> (Indian Institute of Technology, Student) Improving Interlayer Strength and Chloride Resistance in Extrusion-Based 3D Printed Concrete
11:40-13:30	Lunch (Venue: Buffet (1st floor))

Wednesday afternoon, October 21, 2026

Venue: Qinhuai Amazing (3rd floor)

Plenary Session

Chairs: Nicolas Roussel, Yan Zhuge

13:30-14:00	<u>Ana Anton</u> (Anton Reiter) Designing for Additive Construction
14:00-14:30	<u>Emmanuel Keita</u> (Université Gustave Eiffel) Early-age Drying, Shrinkage, and Cracking in Printable and Printed Cementitious Materials
14:30-15:00	<u>Martin Classen</u> (RWTH Aachen University) From Fabrication Process to Structural Performance: Exploring Design Models for Digitally Fabricated Concrete
15:00-15:30	Coffee/Tea break
15:30-16:00	<u>Min Yang</u> (CCCC First Highway Consultants Co.Ltd) Evolution and Case Studies of Concrete 3D Printing Bridge Design and Construction Methods
16:00-16:30	RILEM digital concrete award lecture
16:30-17:00	Closing ceremony Host: Nicolas Roussel (Chair of the steering committee, Gustave Eiffel University)

Poster Sessions

Note: 3 min oral presentation for each poster!

Tuesday morning, October 20, 2026 Venue: Knowledge Room (5th floor)	
1	<u>Dengyu You, Alireza Kashani</u> (University of New South Wales) A Multiphysics Modelling Software for 3D Concrete Printing Simulation from Deposition to Hardened State
2	<u>Miguel Otero, Lorena Freire</u> (AIMEN Technology Centre) 3D Printing of Bio-Based Mortars with Advanced Functionalities for Sustainable Modular Construction
3	<u>Raja Dilawar Riaz, Nyan Lin Htet Aung, Alireza Kashani</u> (University of New South Wales) Rapid Chloride Permeability Assessment of 3D-Printed Stay-in-Place (SIP) Formworks with Supplementary Cementitious Materials
4	<u>Yunxuan Li</u> (Chongqing University) Drying Shrinkage Mitigation for 3D-Printed Concrete by Various Strategies
5	<u>Sourour Elleuch, Imen Othmane, Hélène Carré, Vincent Trincal, Joao Mendes</u> (University of Pau and Pays de l'Adour) Effect of Weather Conditions on the Printability of Cementitious Materials for 3D Printing
6	<u>Shunyao Yao, Min Zhou, Doo-Yeo Yoo, Behzad Nematollahi</u> (University of Sheffield) Reducing Cost and Environmental Footprint of 3D-Printed UHPC Using Recycled Tire Steel Fibers
7	<u>Tiago Canavarro Cavalcante, Oscar Aurelio Mendoza Reales</u> (Federal University of Rio de Janeiro) Effects of Pumping and Extrusion on the Rheological Properties of Cement-Based Printable Mortars

Note: 3 min oral presentation for each poster!

Tuesday morning, October 20, 2026 Venue: Qinhuai Amazing A (3rd floor)	
1	<u>Gwangmin Park, Jae Hong Kim</u> (Korea Advanced Institute of Science and Technology) Rheological and Energy Dissipation Characteristics of Fresh Mortar with Post-Vibration Effect
2	<u>Seung Mo Kim, Jae Hong Kim</u> (Korea Advanced Institute of Science and Technology) Vibration-Induced Thixotropic Control for Precast Concrete Modules Printing
3	<u>Weiwei Zhang, Binbin Yin, K.M. Liew</u> (City University of Hong Kong) Time-Dependent 3D Printability of One-Part Alkali-Activated Materials
4	<u>Jongsu Choi, Inkuk Kang and Jae Hong Kim</u> (Korea Advanced Institute of Science and Technology) Active Rheology Control Based on Magneto-Rheological of Cement Mortar Incorporating Various Magnetic Particles
5	<u>Md Tareq Hossain Khondoker, Alireza Kashani</u> (University of New South Wales) Prediction of Buildability of Low-Carbon Mixes for 3D-Printing Based on Penetration Test
6	<u>Wen Si, James Bradshaw, Swathi Balasubramanian, Mehran Khan, Ciaran McNally</u> (University College Dublin) Rheology-Driven Optimisation of Superplasticizer and Fibre Dosage in Low-Carbon Concrete
7	<u>P. Heik, F. Ehle, T. Echt, L. Göbel</u> (Bauhaus-Universität Weimar) Magnetorheological Control of Cementitious Materials Using Hard Magnetic Particles

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Tuesday morning, October 20, 2026 Venue: UPark Room (5th floor)	
1	<u>Jiazhe Chen, Liping Lv, Chao Liu, Zongfang Ma</u> (Xi'an University of Architecture and Technology) Path Planning for Free-Form 3D Concrete Printing Using Reinforcement Learning
2	<u>Shubham Maurya*, Biranchi Panda, U.S. Dixit</u> (Indian Institute of Technology Guwahati) Adaptive Real-Time Monitoring of Layer Width in Concrete 3D Printing
3	<u>Fei Teng, Minxin Yang, Jie Yu, Yiwei Weng</u> (The Hong Kong Polytechnic University) Automated Multi-material 3D Concrete Printing with Hybrid Reinforcements for Simultaneous Flexural Strength and Ductility Enhancement
4	<u>Yang, M., Bidoia, J., Keita, E., Weng, Y., Roussel, N</u> (The Hong Kong Polytechnic University) Non-destructive and Real-time Detection of Surface Moisture via Near-Infrared Spectroscopy in 3D Printed Concrete
5	<u>Shinya Yamamoto</u> (Shimizu Corporation) On-site Printing of Reinforced Column Members Using Material Jetting 3D Concrete Printer
6	<u>Yan Sun, Guoqiang Du, Xiaowei Deng, Ye Qian</u> (The University of Hong Kong) Spatial Optimization of Fiber Orientation in 3D-Printed FRCC: The Role of Nozzle Geometry and Fiber Parameters
7	<u>Lingwei Xia</u> (Hohai University) Optimization of Filling Path and Structure for 3D Concrete Printing under Manufacturing Constraint

Note: 3 min oral presentation for each poster!

Tuesday morning, October 20, 2026 Venue: Qinhuai Amazing B (3rd floor)	
1	<u>Xiao Zhao, Mehdi Chougan, Ravi Ranade, Behzad Nematollahi (University of Sheffield)</u> Elevated Temperature Performance of 3D-Printed Low-Carbon Alkali-Activated UHPC
2	<u>Prashant R. Singh, Spandana Paritala, Shubham Raj, K. V. L. Subramaniam (Indian Institute of Technology)</u> Improving Interlayer Strength and Chloride Resistance in Extrusion-Based 3D Printed Concrete
3	<u>Spandana Paritala, P. R. Singh, B. A. K. Naik, U. K. Raghu, K. V. L. Subramaniam (Indian Institute of Technology)</u> Comparative Analysis of Fracture Response in Cast and 3D Printed Steel Fiber-Reinforced Concrete
4	<u>Marcella S. Barbosa, Moisés R. S. Lima, Mariah X. Brito, Marcos A.S. Anjos, Sandra Lucas (Federal University of Paraíba)</u> Assessment of 3D Printed Lightweight Cementitious Composites Reinforced with Polypropylene Fibers
5	<u>Ankit Dwivedi, Biranchi Panda, Jagabandhu Kole (Indian Institute of Technology Guwahati)</u> Analysis of Freeze-Thaw Durability in a 3D Printed Slag Mortar: Slag Sand and Slag Cement
6	<u>Egemen Ertem, Liam Whyte, Chris Peacock, Richard A. Buswell (Loughborough University)</u> Interpreting the Influence of Defects in 3D Printed Mortar on Compressive Strength under Slant Shear Loading
7	<u>Kaiyuan Zhu, Giang D. Nguyen, Tran T. Tung, Abdul H. Sheikh, Ching-Tai Ng (Adelaide University)</u> Anisotropic Electro-Mechanical Behaviour of 3D Printed GNP-Enhanced Self-Sensing Cementitious Composites under Compression Using Acoustic Emission and Digital Image Correlation
8	<u>Sixue Chen (Northeast Forestry University)</u> Carbonation-Regulated Algal-Bacterial Treatment for Interfacial Filling and Mechanical Homogenization of 3D-Printed Mortar

Note: 3 min oral presentation for each poster!

Tuesday morning, October 20, 2026 Venue: ULake Room (3rd floor)	
1	<u>Gokul Santhosh S, Prof. Manu Santhanam, & Prof. Benny Raphael (IIT Madras)</u> Modular 3D Concrete Printed Reinforced Beams
2	<u>Kaname Saitoh, Jing Cui, Jiahui Cui, Chihiro Matsushita, Shifan Zhang, Leon Troussel (Sika Japan Ltd.)</u> Integrated Design and Fabrication of 3D Concrete Printed Wall Structures using FEA and Modular Printing
3	<u>Li Yuhan, Iasef Md Rian (Xi'an Jiaotong-Liverpool University)</u> Fractal-Inspired Toolpath in 3D Concrete Printing for Freeform Lattice Shell Structures
4	<u>Hao Li, Cong Zhou, and Jie Xu (Huazhong University of Science and Technology)</u> Early Experimental Study on Heat Dissipation Performance of Concrete Gyroid Porous Structures
5	<u>L Nienaber, Prof G van Zijl, Prof J Kruger, Dr K Timm (Stellenbosch University)</u> Calibration of the Material Partial Factor for 3D Printed Concrete
6	<u>Philip Tarek Wehbe, Gert Eilbracht, Andreas Trummer, Stefan Peters (Carinthia University of Applied Sciences)</u> Material Savings for Bored Piles Using 3D-Printed Recess Formers
7	<u>Fabian Fritz, Patrick Huber, Tobias Huber (Vienna University of Technology)</u> Load-Bearing Behaviour of T-Beams with Robotically Fabricated Reinforcement Cages