



Conference Programme (Day 1) 25 November 2024

Time	Duration	Venue: Auditorium	Venue: Conference Hall 5-7		
8:45 - 10:00	1:15	Opening Ceremony Welcome Speech <i>Prof Kim Meow LIEW</i> Opening Address <i>Ir Prof On-Sing Thomas HO</i>	Registration & Exhibition (Venue: Pre-Function Hall)		
10:00 - 10:20	0:20	Plenary Lecture 1 - Integration of Reinforcement into Extrusion-based 3D Concrete Printing <i>Prof Viktor MECHTERINE</i> Session Chairman: <i>Prof Kim Meow LIEW</i>			
10:20 - 10:50	0:30				
10:50 - 11:15	0:25		AM Break		
11:15 - 11:40	0:25	Keynote presentation - Optimization of Material and Nozzle for 3D Printing UHPC and Applications <i>Prof Tamer ZHANG</i> Session Chairman: <i>Prof Ming Jen TAN</i>			
11:40 - 12:05	0:25	Keynote presentation - DBMA for Modern Bridge Construction <i>Ir Jun KAN</i> Session Chairman: <i>Prof Ming Jen TAN</i>			
12:05 - 13:35	1:30	Lunch			
Time	Duration	Venue: Auditorium	Venue: Conference Hall 5	Venue: Conference Hall 6	Venue: Conference Hall 7
		Mini Symposium - Sustainable Materials and Durability of 3D-Printed Concrete Structures	Paper Presentation Session	Paper Presentation Session	Paper Presentation Session
13:35 - 13:55	0:20	Carbonaluminate Cementitious Material for Potential 3D Printing: Synthesis and Performance <i>Prof Yanhua WANG</i>	<u>Paper Presentation</u> Potential Applications of Magneto-Rheology Control in 3D Concrete Printing <i>Prof Denguo JIAO</i>	<u>Paper Presentation</u> Advancing load-bearing applications of 3D concrete printing in practice: Insights from Witteveen+Bos <i>Mr Shaun WU</i>	<u>Paper Presentation</u> PERFORMANCES OF 3D CONCRETE PRINTING FROM PRINTING TO STRUCTURES <i>Mr Zhenbang LIU</i>
13:55 - 14:15	0:20	Keynote Presentation - Material Distribution in Spray-based 3D Concrete Printing: Experimental Studies and Modelling <i>Prof Shunzhi QUAN</i>	<u>Paper Presentation</u> FORMWORK OPTIMIZATION WITH MDT: NUMERICAL AND EXPERIMENTAL STUDY <i>Mr Zijian HUSSAIN</i>	<u>Paper Presentation</u> Bonding Strengths of Metamaterial Interface Between Bars and Concrete <i>Jiapu LI</i>	<u>Paper Presentation</u> DUCTILITY PERFORMANCE INVESTIGATION OF STRUCTURALLY OPTIMIZED MODEL-SCALE 3D PRINTED BEAMS WITH PP FIBRES AND WIRE ENTRAINMENT <i>Mr Viktor Nijmje</i>
14:15 - 14:35	0:20	Keynote Presentation - Rheological properties of 3D printed mortar with recycled fine aggregate: From the perspective of particle packing <i>Prof Zhenhua DUAN</i>	<u>Paper Presentation</u> Reinforcement into 3D Printed Concrete Beams via Pre-Designed Opening and Post-Reinforcing Method <i>Mr Hongyue GAO</i>	<u>Paper Presentation</u> Tunable properties of 3D Printing architected lattice-reinforced composite beams based on topology optimization <i>Dr Jigu Kurnet</i>	<u>Paper Presentation</u> Reinforcement of 3D Printed Concrete using Flexible Cables <i>Dr Sohe WANG</i>
14:35 - 14:55	0:20	Keynote Presentation - Artificial Intelligence in Performance Prediction and Low-Carbon Design of 3D Printing Concrete <i>Dr Songyuan GENG</i>	<u>Paper Presentation</u> 3D Concrete Printing Modelling via Smoothed Particle Hydrodynamics <i>Mr Hao YU</i>	<u>Paper Presentation</u> Rheological Characterization for Improved Flow and Porosity Control in 3D Cementitious Material Printing <i>Treck Neng WONG</i>	<u>Paper Presentation</u> Experimental Evaluation On Cracking Behavior Of Composite Beams For Concrete 3D Printed Without Stirrups <i>Dr Songlin BAI</i>
14:55 - 15:15	0:20	SPRC stairs with designed steel fibre distribution by SDP <i>Prof Ru MU</i>	<u>Paper Presentation</u> Set-on-demand Calcined Clay - Slag-based Geopolymer For 3D Concrete Printing <i>Dr Shivan MUTHUKRISHNAN</i>	<u>Paper Presentation</u> 3D Printed Lattice Aggregates Enhanced Permeable Function in Concrete and Asphalt Pavement <i>Qian ZHA</i>	<u>Paper Presentation</u> Mechanical Properties and Interfacial Bonding of Waste Printed Circuit Board Cement-Based Materials <i>Dr Xingyu ZHAO</i>
15:15 - 15:35	0:20	Torque-based Rheology buildability Evaluation for 3D Concrete Printing <i>Mr Zhilong DUAN</i>	<u>Paper Presentation</u> Uncertainty Quantification and Printing Parameters Optimization of FDM-based Architected Lattice <i>Dr Liangyu HUANG</i>	<u>Paper Presentation</u> Lightweight Multifunctional 3D-Printed Strain-Hardening Cementitious Composites with Nature-Inspired Designs <i>Dr Guoqiang DU</i>	<u>Paper Presentation</u> In-situ Fabrication Techniques to Reinforce 3D-printed Concrete <i>Dr Xiangpeng CAO</i>
15:35 - 16:00	0:25	PM Break			
16:00 - 16:45	0:45	Lab Tour - NAMI (Quota: 60)			
		End of Day 1			

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Conference Programme (Day 2) 26 November 2024

Time	Duration	Venue: Auditorium	Venue: Conference Hall 5-6	
9:15 - 9:45	0:30		Registration & Exhibition (Venue: Pre-Function Hall)	
9:45 - 10:15	0:30	Plenary Lecture 2 - 3D printed self-healing strain hardening cementitious composite <i>Prof Erik SCHLANGEN</i> <i>Session Chairman: Prof Jianguo DAI</i>		
10:15 - 10:40	0:25	Keynote Presentation -From Research to Reality: 3D Printing Concrete Developments in Japan <i>Prof Tetsuya ISHIDA</i> <i>Session Chairman: Prof Jianguo DAI</i>		
10:40 - 11:00	0:20		AM Break	
11:00 - 11:25	0:25	Keynote Presentation - A Vision for Automation of Construction: Through Architectural and Structural Optimisation and leveraging 3D Printing Technologies <i>Prof Asif USMANI</i> <i>Session Chairman : Dr SU Kai Leung Ray</i>		
11:25 - 11:50	0:25	Keynote Presentation - Eco-Materials for Digital Construction by 3D Printing <i>Mr. Xuan LIU</i> <i>Session Chairman: Dr SU Kai Leung Ray</i>		
11:50 - 13:20	1:30		Lunch	
Time	Duration	Venue: Auditorium	Venue: Conference Hall 5	Venue: Conference Hall 6
		Mini Symposium - Challenges and potentials for implementing 3D concrete printing in building construction	Paper Presentation Session	Mini Symposium - Low Carbon Materials for 3D Printing
13:20 - 13:40	0:20	Ultra high-strength and high- ductility geopolymers cementitious composites <i>Prof Jianguo DAI</i>	Paper Presentation Transportation Infrastructure Applications Of 3D Printed Concrete: The Case Of A 30m Bridge Of Spatial Hyperbolic Mixed Structure <i>Prof Xiaofei YAO</i>	3D Printed Engineered Cementitious Composites (3DP-ECC): From Material Design to Structural Member Performance <i>Dr Kequan YU</i>
13:40 - 14:00	0:20	Stitching Engineered Cementitious Composites (ECC): Unraveling Anisotropy Challenges through Architctured 3D Printing Path Design <i>Wen ZHOU</i>	Paper Presentation Enhancing Bioenergy Production through Novel Interaction of Microbes with Granular Activated Carbon-adsixed Cement Mortar <i>Mr Christian Nelson Tejedor Vicens</i>	Application of Nano-Foam Concrete in Prefabricated Products and Cast-In-Place Projects <i>Prof Guoxing SUN</i>
14:00 - 14:20	0:20	Effect of different expansive agents on the early age structural build-up process of cement paste <i>Dr. Zijian JIA</i>	Paper Presentation Engineered Living Building Material (LBM) Formed By Binder Jetting Under Martian Temperature And Air Pressure <i>Prof Jishen QIU</i>	Development of CO2-integrated 3D Printing Concrete <i>Dr Long LI</i>
14:20 - 14:40	0:20	Investigation of microwave heating on rheological properties, interlayer bond and buildability of 3D-printed geopolymer <i>Yating ZHANG</i>	Paper Presentation Experimental Study of Post-Fire Material Response of Wire-Laser Additively Manufactured Stainless Steel <i>Dr Xi CHEN</i>	Experimental and numerical analysis of mechanical properties of 3D-printed composite beams with ECC and recycled fine aggregate concrete <i>Dr Haoran LIU</i>
14:40 - 15:00	0:20	Influence of Nano-Silicon Dioxide on the Ultra-Early Performance of Sulfoaluminate Cement under Negative Temperature Environment <i>Renjie ZHAO</i>	Paper Presentation Adaptive 3D Printing: Toolpath Generation for Additive Manufacturing <i>Prof Wei-Hsin LIAO</i>	Reliable Interlayer Bonding of 3D Printed Concrete <i>Mr Shen WANG</i>
15:00 - 15:20	0:20	Effect of Mix Proportion Parameters on the Rheological and Mechanical Properties of 3D Printed High Ductility Magnesium Phosphate Cement-Based ECC <i>Prof Feng HU</i>	Paper Presentation Mechanical Properties and Microstructure of 3D Printed Engineered Cementitious Composites Based on Limestone Calcined Clay Cement <i>Dr Yuting WANG</i>	Improving Layer Adhesion in 3D-Printed Concrete Using Bacterial Biomineralization Techniques <i>Prof. Amardeep SINGH</i>
15:20 - 15:40	0:20		PM Break	
		Venue: Auditorium	Venue: Conference Hall 5	Venue: Conference Hall 6
		Mini Symposium - Challenges and potentials for implementing 3D concrete printing in building construction	Paper Presentation Session	Mini Symposium - Low Carbon Materials for 3D Printing
15:40 - 16:00	0:20	3D Embedded-Printing of Vasculature in Cementitious Materials for Autonomous Protection <i>Dr Yuanzhan ZHANG</i>	Paper Presentation The Impacts of In-Situ CO2-Steam Integration on Sustainable Concrete 3D Printability <i>Mr Sean Gip LIM</i>	Paper Presentation Underwater 3D concrete printing considering the printing force in seawater: raw materials, fresh performance, and failure prediction <i>Yao Xiao</i>
16:00 - 16:20	0:20	3D Printing Ultra-High-Performance Concrete: The Influence Mechanism of Extruded Pore Defects and Fiber Orientation on Constitutive Relationship <i>Hanquan YUAN</i>	Paper Presentation Construction Stability Analysis of 3D Printing Process Based on Changed Barycenter for Thin-shell Concrete Components <i>Dr Min YANG</i>	Paper Presentation Traditional Architectural Decoration Prototyping Based on 3D Printing and Generative Design <i>Mr Yiwei YIN</i>
16:20 - 16:40	0:20	INFLUNCE OF FIBER CONTENT ON FIBER ORIENTATION AND MECHANICAL PERFORMANCE OF 3D PRINTED CONCRETE <i>Prof Hongzhi ZHANG</i>	Paper Presentation Using Strain-hardening Cementitious Composites (SHCC) as Bonding Materials to Enhance Interlayer and Flexural Performance in 3D Concrete Printing <i>Mr Fei TENG</i>	Paper Presentation Mechanical properties and microstructure analysis of 3D printed alkali-activated cementitious materials <i>Weiwei ZHANG</i>
16:40 - 17:00	0:20	Formation mechanism of fiber alignment in 3D printed ultra-high-performance concrete based on stereology theory <i>Dr Enlai DONG</i>	Paper Presentation Experimental and Numerical Studies on the Mechanical Properties of 3D Printed Recycled Concrete <i>Dr Tao DING</i>	Paper Presentation Social, Economic and Environmental Impact on Metal 3D Printing in Construction <i>Dr Vittoria LAGHI</i>
17:00 - 17:20	0:20	Enhancing Mechanical Properties of Concrete with 3D Printed Vascular Networks via Carbonation strengthening <i>Mr Pengrui LU</i>	Paper Presentation Optimizing spatial 3D printing method to improve print quality of out-of-plane triangle <i>Mr Yangsheng LIN</i>	Paper Presentation A Comparative Cradle-to-Grave Life Cycle Assessment of 3DCP Building <i>Prof Xiaoling ZHANG</i>
17:20 - 17:40	0:20	Effect of Fiber Type on Rheological and Compressive Properties of 3D Printed Magnesium Phosphate Cement-Based ECC <i>Zhenyun YU</i>	Paper Presentation On-demand Spatial Extrusion-based Printing Enabled by the Tunable Surface of Elastic Gridshell for 3DCP <i>Dr Jiachen LI</i>	Paper Presentation IFC Schema Extension for BIM-Based Automated Smart Road Assessment <i>Prof Jung In KIM</i>
			End of Day 2	
18:30 - 21:30	3:00		Conference Banquet (Venue: Royal Park Hotel, Shatin)	

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Conference Programme (Day 3) 27 November 2024

Time	Duration	Venue: Auditorium
9:15 - 9:45	0:30	Registration & Exhibition (Venue: Pre-Function Hall)
9:45 - 10:15	0:30	Plenary Lecture 3 - Sustainability through Construction 3D Printing <i>Prof Ming Jen TAN</i> Session Chairman: <i>Prof Kim Meow LIEW</i>
10:15 - 10:40	0:25	Keynote Presentation - Revamping construction practice via 3D printing technology <i>Ir Michael FONG, JP</i> Session Chairman: <i>Prof Denvid LAU</i>
10:40 - 11:00	0:20	AM Break
11:00 - 11:25	0:25	Keynote Presentation - Study on Rebar-free Concrete Construction with 3D Printed Recycled Concrete <i>Prof Jianzhuang XIAO</i> Session Chairman: <i>Prof Denvid LAU</i>
11:25 - 11:50	0:25	Keynote Presentation - Understanding Plasticization Efficiency of PCE Superplasticizers in Alkali-Activated Systems <i>Prof Hailong YE</i> Session Chairman: <i>Prof Denvid LAU</i>
11:50 - 11:55	0:05	Closing Remark <i>Prof Heung Fai LAM</i>
End of Conference		

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