



深圳大学
SHENZHEN UNIVERSITY



THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

ACF2023_ETSL

The 4th Asian Concrete Federation Symposium on
Emerging Technologies for Structural Longevity



CONFERENCE MANUAL

Shenzhen, CHINA
11~13 March, 2023

ACF2023_ETSL

The 4th Asian Concrete Federation Symposium on
Emerging Technologies for Structural Longevity

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Organizer



Asian Concrete Federation

Co-Organizers



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Supporting Organizations

- China Civil Engineering Society
- Japan Society of Civil Engineers
- The International Federation for Structural Concrete
- International Union of Laboratories and Experts in Construction Material Systems and Structures
- American Concrete Institute
- Japan Concrete Institute
- Korea Concrete Institute
- Guangdong Key Laboratory of Durability in Marine Civil Engineering
- Shenzhen Key Laboratory of Durability in Civil Engineering

Introduction

Between 11 and 13 March 2023, the 4th Asian Concrete Federation Symposium on Emerging Technologies for Structural Longevity (ACF2023_ETSL) will be held in Shenzhen, China. On behalf of the International Scientific Committee and the International Organizing Committee of this symposium, we would like to thank you for your active participation and valuable contribution.

As one of the largest concrete symposiums in Asia, it is our great privilege to jointly host this event with the College of Civil and Transportation of Shenzhen University and the Department of Civil and Environmental Engineering of Hong Kong and Polytechnic University. We are honored to announce that there are 10 distinguished academic professors and industry professionals will present as keynote speakers at this symposium. The International Scientific Committee has received more than 200 submissions from 10 countries. Among these, over 180 submissions have been accepted and will present at this symposium. 14 parallel special sessions with different topics will be hosted simultaneously during the conference. In addition to this symposium, *fib* MC2020 workshop will be held online and free for all participants.

We sincerely hope that the successful hosting of this symposium could contribute to the sustainable development of concrete structures and promote the international collaboration of all aspects in this field. The organizers of the 4th Asian Concrete Federation Symposium look forward to welcoming you in Shenzhen, China!

● Program at a Glance ●

Mar.10 2023	13:00-22:00	Registration
Mar.11 2023	08:00-08:25	Opening Ceremony
	08:25-09:35	Keynote Session 1
	09:35-10:15	Group Photo & Tea Break
	10:15-12:00	Keynote Session 2
	12:00-14:00	Buffet Lunch
	14:00-18:00	Parallel Sessions
	19:00-21:00	Banquet
Mar.12 2023	08:00-12:00	Parallel Sessions
	12:00-14:00	Buffet Lunch
	14:00-15:45	Keynote Session 3
	15:45-16:15	Online Group Photo & Break
	16:15-17:25	Keynote Session 4
	17:25-17:40	Closing Session
Mar.13 2023	15:00-20:10	<i>fib</i> MC2020 Workshop (Online)

Guidelines for Speakers

- Conference Venue: The 11th floor of Shenzhen Hyde Hotel
- The presentation document should be prepared in English.
- For keynote session speakers, presentation slot will be 35 minutes, including 3-5 minutes for questions and answers. Please prepare the slides in 16:9 format.
- For parallel session speakers, presentation slot will be 15 minutes, including 2-3 minutes for questions and answers. Please prepare the slides in 4:3 format.

Registration & Accommodation

Registration

Type	Full Registration	Student Registration*
Fee	\$400 or ¥2500	\$200 or ¥1250

Registration Desk: The lobby of Shenzhen Hyde Hotel on the 13th floor

Full Registration includes: Participation in the symposium, Welcome reception, Banquet, Lunches, Coffee breaks

Student Registration includes: *Participation in the symposium, Lunches, Coffee breaks

All Speakers should register by the due date to have their accepted abstracts included in the online proceedings and scheduled for presentation.

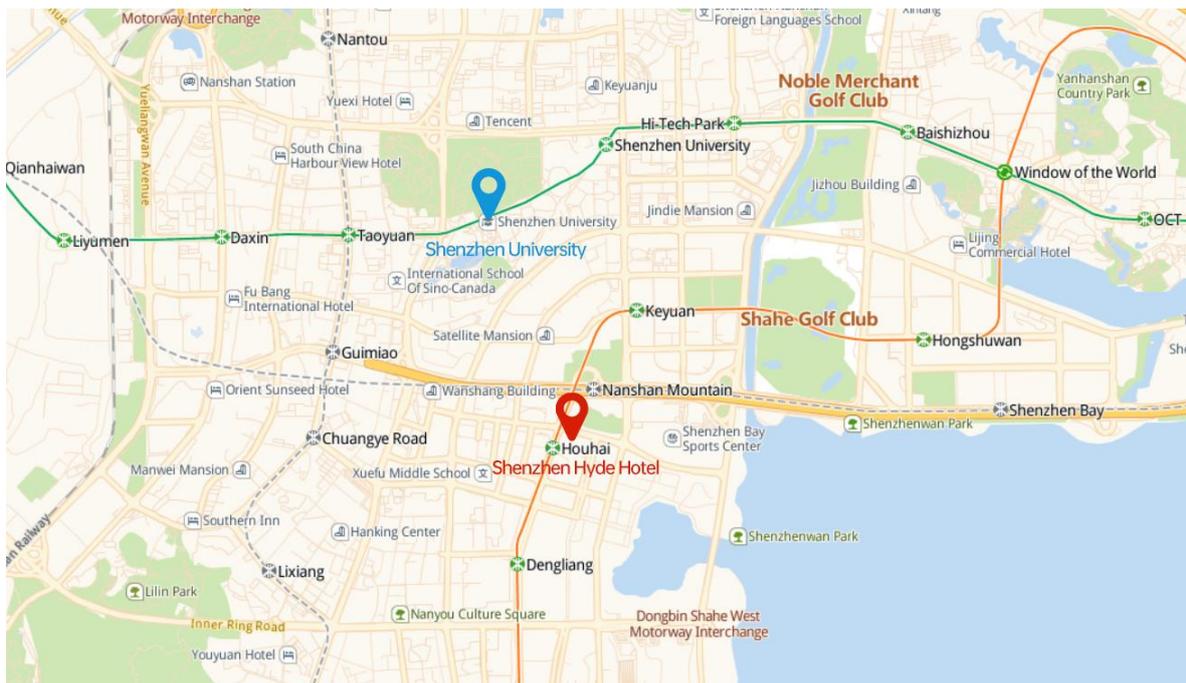
Accommodation

Shenzhen Hyde Hotel (深圳海德酒店)

Address: China, Guangdong, Shenzhen, Nanshan District, No. 3368 Hou Binhai Road, East Block 13F, Peng Runda Plaza(广东省深圳市南山区后海滨路3368号鹏润达商业广场东座13层)

Booking Link: <https://acf2022.aconf.org/hotel.html>

Type	Deluxe King Bed Room	Deluxe Twin Bed Room
Price	¥600	¥650



● International Scientific Committee ●

Chairs

Prof. Jian-Guo NIE, Tsinghua University

Director of Academic Committee of Tsinghua University

Director of Civil, Hydraulic and Architecture Engineering Division, Chinese Academy of Engineering

Prof. Tamon UEDA, Shenzhen University

President of Japan Society of Civil Engineers

Prof. Chang-Wen MIAO, Southeast University

Director of Academic Committee of Southeast University

Director of State Key Laboratory of High-Performance Civil Engineering Materials

Members

Prof. Narantuya BATMUNKH, Mongolian Concrete Association

Prof. Yin-Wen CHAN, Taiwan Concrete Institute Taiwan National University

Prof. Dong-Uk CHOI, Korea Concrete Institute Hankyong National University

Prof. Bahador Sabet DIVSHOLI, Singapore Concrete Institute

Prof. Bi-Qin DONG, Shenzhen University

Prof. Vyatcheslav R. FALIKMAN, Association for Structural Concrete (Russia)

Prof. Xiang-Lin GU, Tongji University

Prof. Vinay GUPTA, Indian Concrete Institute

Prof. Le-Quang HUNG, Vietnam Concrete Association

Prof. Jin-Yang JIANG, Southeast University

Prof. Zheng-Wu JIANG, Tongji University

Prof. Thomas KANG, Seoul National University

Prof. Jin-Man KIM, Kongju National University

Prof. Shi-Cong KOU, Shenzhen University

Prof. Christopher LEUNG, Hong Kong University of Science and Technology

Prof. Hui LI, Harbin Institute of Technology

Prof. Ke-Fei LI, Tsinghua University

Prof. Yue LI, Beijing University of Technology

Prof. Zong-Jin LI, University of Macau

Prof. Wu-Jian LONG, Shenzhen University

Prof. Benjamin LUMANTARNA, Indonesian Society of Civil and Structural Engineers

Prof. Guo-Wei MA, Hebei University of Technology
Prof. David MILLAR, Concrete Institute of Australia
Prof. Di-Tao NIU, Xi'an University of Architecture and Technology
Prof. Takafumi NOGUCHI, Japan Concrete Institute, The University of Tokyo
Prof. Thanakorn PHEERAPHAN, Thailand Concrete Association
Prof. Chi Sun POON, Hong Kong Polytechnic University
Prof. Chun-Xiang QIAN, Southeast University
Prof. Jue-Shi QIAN, Chongqing University
Prof. R. RADHAKRISHNAN, Indian Concrete Institute
Prof. Cai-Jun SHI, Hunan University
Prof. Somnuk TANGTERMSIRIKUL, Thailand Concrete Association
Prof. Tavió TAVIO, Institut Teknologi Sepuluh Nopember
Prof. Le Trung THANH, Vietnam Concrete Association Vietnam Institute for Building
Materials
Prof. Fa-Zhou WANG, Wuhan University of Technology
Prof. Bo WU, Guangzhou University
Prof. Jian-Zhuang XIAO, Tongji University
Prof. Feng XING, Shenzhen University
Prof. Li-Hua XU, Wuhan University
Prof. Duinkherjav YAGAANBUYANT, Mongolian Concrete Association
Prof. Hiroshi YOKOTA, Japan Concrete Institute Hokkaido University
Prof. Qi-Jun YU, Hefei University of Technology
Prof. Zhi-Wu YU, Central South University
Prof. Yun-Sheng ZHANG, Lanzhou University of Technology
Prof. Yu-Xi ZHAO, Zhejiang University
Prof. Ying-Wu ZHOU, Shenzhen University
Prof. Ji-Hua ZHU, Shenzhen University

● International Organizing Committee ●

Chair

Prof. Feng XING, Shenzhen University

Co-chairs

Prof. Jian-Guo DAI, The Hong Kong Polytechnic University

Prof. Ji-Hua ZHU, Shenzhen University

Members

Ms. Di CUI, Shenzhen University

Dr. Bo-Tao HUANG, The Hong Kong Polytechnic University

Dr. Ming-Feng KAI, The Hong Kong Polytechnic University

Dr. Mehran KHAN, The Hong Kong Polytechnic University

Dr. Le-Yang LV, Shenzhen University

Dr. Chun PEI, Shenzhen University

Dr. Jun WANG, Shenzhen University

Dr. Ling-Yu XU, The Hong Kong Polytechnic University

Ms. Yi-Hua YANG, Shenzhen University

● Keynote Session ●

(Listed by name initials)



Dr. Akio Kasuga

Immediate Past President of fib
Executive Vice President, CTO,
Sumitomo Mitsui Construction, Japan



Prof. Sylvia Keßler

Helmut Schmidt University,
Germany



Prof. Jie LI

Tongji University, China
Academician of Chinese Academy of
Sciences



Prof. Zong-Jin LI

Institute of Applied Physics and Materials
Engineering
University of Macau, China



Prof. Chang-Wen MIAO

Academician of Chinese Academy of
Engineering
Southeast University, China



Prof. Jin-Ping OU

Academician of Chinese Academy of
Engineering
Harbin Institute of Technology
(Shenzhen), China



Prof. Hong-Gun PARK

President of Korea Concrete Institute,
Korea



Prof. Jin-Guang TENG

Academician of Chinese Academy of
Sciences
The Hong Kong Polytechnic University,
Hong Kong, China



Prof. Shi-Lang XU

Academician of Chinese Academy of
Sciences
Zhejiang University, China



Prof. Feng XING

Shenzhen University,
China

Program of Keynote Session

11th, Mar, 2023

Room: M1112

Zoom ID: 851 8471 0813

Password: ACF2023

Opening Ceremony	
08:00-08:25	<p>Welcome Speech Jian-Guo NIE (Online), <i>Tsinghua University</i></p> <p>Welcome Speech Leader of organizer, <i>Shenzhen University</i></p> <p>Introduction of Asian Concrete Federation Cai-Jun SHI, <i>Hunan University, President of Asian Concrete Federation</i></p>
Keynote Session 1	
Chair: Tamon UEDA, Cai-Jun SHI	
08:25-09:00	<p>Self-sensing FRP Products, Seawater Sea-sand /Nano Concrete and Corrosionfree Smart Structures Jin-Ping OU (Online), <i>Harbin Institute of Technology (Shenzhen)</i></p>
09:00-09:35	<p>Green and Low-Carbon Construction Materials Chang-Wen MIAO, <i>Southeast University</i></p>
09:35-10:15	Group Photo & Tea Break
Keynote Session 2	
Chair: Chun-Xiang QIAN, Yu-Fei WU	
10:15-10:50	<p>Stochastic Damage Mechanics: Developments and Recent Progress Jie LI, <i>Tongji University</i></p>
10:50-11:25	<p>Ultra-high Toughness Cementitious Composites (UHTCC) for Resilient and Sustainable Infrastructures Shi-Lang XU (Online), <i>Zhejiang University</i></p>
11:25-12:00	<p>Self-healing Materials and Technology for Marine Concrete Feng XING, <i>Shenzhen University</i></p>

12th, Mar, 2023

Room: M1112

Zoom ID: 851 8471 0813

Password: ACF2023

Keynote Session 3	
Chair: Jian-Guo DAI, Ji-Hua ZHU	
14:00-14:35	Evolution of <i>fib</i> Model Code 2020 Akio Kasuga (Online), <i>Federation for Structural Concrete(fib)</i>
14:35-15:10	Performance-Based Earthquake Design of Building Structure in Korea Hong-Gun PARK (Online), <i>Korea Concrete Institute</i>
15:10-15:45	Reliability assessment of NDT in Civil Engineering Sylvia Keßler (Online), <i>Helmut Schmidt University</i>
15:45-16:15	Online Group Photo & Break
Keynote Session 4	
Chair: Peng FENG, Bi-Qin DONG	
16:15-16:50	Concrete durability and the corresponding test methods Zong-Jin LI, <i>University of Macau</i>
16:50-17:25	FRP-seawater sea-sand concrete structures: origin, current status and some latest innovations Jin-Guang TENG, <i>The Hong Kong Polytechnic University</i>
Closing Session	
17:25-17:40	Juhyuk Moon (Online), <i>Seoul National University</i>

*Note: This conference offers simultaneous translation for opening ceremony and keynote sessions 1&2, which is available via zoom.

● *fib* MC2020 Workshop ●

(Listed by name initials)



**Prof. Carmen
ANDRADE**
Instituto Eduardo
Torroja,
Spain



**Dr. Gerrie
DIETEREN**
Nederlandse
Organisatie voor
Toegepast
Natuurwetenschappe
lijk Onderzoekseung,
Netherland



**Prof. Stephen
FOSTER**
President of the
International
Federation for
Structural Concrete
(*fib*)



Prof. Ke-Fei LI
Tsinghua University,
China



Prof. Xi-Lin LV
Tongji University,
China



Dr. Stuart MATTHEWS
Chair of TG10.1
Model Code 2020,
Britain



Prof. Tamon UEDA
Shenzhen University,
China

The International Federation of Structural Concrete (*fib*) publishes the International Code for Structural Concrete, a model for national/regional code and a document that provides advanced information to engineers and researchers worldwide. *fib* MC2020 Workshop is co-hosted by ACF-Shenzhen University-The Hong Kong Polytechnic University and *fib*, and seven prestigious scholars are specially invited to serve as lecturers for this event.

13th, Mar, 2023

Online

Zoom ID: 881 9178 5988

Password: ACF2023

Time	Chair: Stuart MATTHEWS
15:00-15:30	Sign-in
15:30-15:40	<p>Welcome/Opening remarks</p> <p>Stephen FOSTER, <i>Federation for Structural Concrete(fib)</i></p>
15:40-16:15	<p>Introduction+overview of MC2020, Sustainability and Life Cycle Management</p> <p>Stuart MATTHEWS, <i>Federation for Structural Concrete(fib)</i></p>
16:15-16:50	<p>Durability and Service Life Design</p> <p>Carmen ANDRADE, <i>Instituto Eduardo Torroja</i></p>
16:50-17:25	<p>Assessment of existing structures</p> <p>Gerrie DIETEREN, <i>Nederlandse Organisatie voor Toegepast Natuurwetenschappelijk Onderzoekseung</i></p>
17:25-17:40	Questions & Answers
17:40-18:00	Break
Time	Chair: Tamon UEDA
18:00-18:35	<p>Seismic design of structures in China</p> <p>Xi-Lin LV, <i>Tongji University</i></p>
18:35-19:10	<p>Durability design of structures in China</p> <p>Ke-Fei LI, <i>Tsinghua University</i></p>
19:10-19:45	<p>Conservation and interventions-A comparison of <i>fib</i> and Chinese perspectives</p> <p>Tamon UEDA, <i>Shenzhen University</i></p>
19:45-20:00	Questions & Answers
20:00-20:10	<p>Closing remarks-Round up of Workshop</p> <p>Xi-Lin LV, <i>Tongji University</i></p>

Parallel Sessions List

PS 1	Ionic Transport and Electrochemical Rehabilitation: Mechanisms & Techniques Organizers: Qing-Feng LIU, Jie HU, Jin XIA, Hong-Qiang CHU
PS 2	High/Ultra-High Performance Fiber-Reinforced Cementitious Composites Organizers: Wei-Wen LI, Jing YU, Bo-Tao HUANG, Ling-Yu XU
PS 3	Improvement on The Strengthening Efficiency of Concrete Structures with Advanced Composite Materials Organizers: Da-Wei ZHANG, Yi WANG
PS 4	Limestone Calcined Clay Cement Concrete: Material Development, Physical Properties, Structural Implementation and Durability Organizers: Ying-Wu ZHOU, Zhen-Yu HUANG, Peng-Kun HOU, Hong-Jian DU, Tiao WANG, Meng-Huan GUO
PS 5	Sustainable Construction Materials Towards Carbon Neutrality Organizer: Ming-Zhi GUO
PS 6	FRP/Fibre Textile-Reinforced Cementitious Composites Organizers: Guang-Ming CHEN, Yu ZHENG, Ran FENG, Jun-Jie ZENG
PS 7	High-Performance Hybrid/Composite Structures Combining Concrete with Various Constructional Materials Organizers: Ju CHEN, Fei XU, Fang-Ying WANG
PS 8	The First Greater Bay Area Forum on Low Carbon Construction Materials and Technologies (LCCMT) Organizers: Jian-Guo DAI, Bi-Qin DONG, Guo-Xing SUN
PS 9	Properties of Seawater and Sea-Sand Concrete (SSC) Organizers: Xian-Feng WANG, Jun LIU, Zhi-Lu JIANG, Fang YUAN
PS 10	Self-Healing/Self-Immune Concrete Organizers: Zheng-Wu JIANG, Le-Yang LV, Hong-Zhi ZHANG, Hao-Liang HUANG, Du-Jian ZOU
PS 11	Valorization of Waste FRP Composites for Use in Civil Engineering Organizers: Jian-Fei CHEN, Chun PEI, Bing FU, Rong-Qi ZHANG
PS 12	Low-Carbon and Sustainable Concrete Organizers: Wu-Jian LONG, Gan-Lin FENG, Chuang HE, Hui RONG, Jin-Rui ZHANG
PS 13	Novel & High-Performance Materials for Sensing and Improving the Serviceability of Transportation Infrastructure Organizers: Hai-Jun ZHOU, Jian-Zhong LIU, Bing CHEN, Qiang YUAN, Cong MA, Rui ZHOU
PS 14	Issues And Measure for Concrete Structures in Hot Weather Conditions Organizers: Shingo ASAMOTO, Yao LUAN, Kohei NAGAI, Somnuk TANGTERMSIRIKUL

Parallel Sessions at a glance

Time Slot		Room	M1123	M1125	M1118	M1110	M1108	M1126	Online
		11th, Mar	14:00~16:00		PS 1-1	PS 2-1	PS 3-1	PS 4-1	PS 5-1
16:20~18:20			PS 1-2	PS 2-2	PS 3-2	PS 4-2	PS 5-2	—	PS 14
12th, Mar	08:00~10:00		PS 6-1	PS 2-3	PS 8	PS 10-1	PS 11	PS 13	—
	10:20~12:20		PS 6-2	PS 7	PS 9	PS 10-2	PS 12	—	—



*Note: The room arrangement is subject to change according to the specific situation.

Parallel Sessions-1 (PS 1-1)

Ionic Transport and Electrochemical Rehabilitation: Mechanisms & Techniques

11th, Mar, 2023

Room: M1123

Zoom ID: 869 6653 3158

Password: ACF2023

Time	Chair: Qing-Feng LIU, Jin XIA
14:00~14:15	Effect of conductive coating on the cathodic protection and prevention of steel reinforcement in concrete Lu-Ping TANG, <i>Chalmers University of Technology</i>
14:15~14:30	Healing of concrete cracks by in-situ synthesis of ettringite induced by electric field Qing CHEN, <i>Tongji University</i>
14:30~14:45	Chloride Penetration into Steam Cured Concrete at Tidal Zone Peng-Gang WANG, <i>Qingdao University of Technology</i>
14:45~15:00	Reactive-transport numerical model in reinforced concrete structures with chloride attack and the active electric field corrosion control Bing-Bing GUO, <i>Xi'an University of Architecture and Technology</i>
15:00~15:15	A novel method for assessing C-S-H chloride adsorption in cement pastes Hong-Lei CHANG, <i>Shandong University</i>
15:15~15:30	Numerical simulation of the effect of crack dynamic self-healing process on chloride ion transport and reinforcement corrosion in concrete Jun XU, <i>Jiangsu University of Science and Technology</i>
15:30~15:45	Effect of Stress on Corrosion Behavior of Steel Bars Embedded in Concrete Jie-Jing CHEN, Jin XIA, <i>Zhejiang University</i>
15:45~16:00	Numerical study on electrochemical rehabilitation methods for reinforced concrete damaged by various factors Zhao-Zheng MENG, Qing-Feng LIU, <i>Shanghai Jiao Tong University</i>

Parallel Sessions-1 (PS 1-2)

Ionic Transport and Electrochemical Rehabilitation: Mechanisms & Techniques

11th, Mar, 2023

Room: M1123

Zoom ID: 869 6653 3158

Password: ACF2023

Time	Chair: Jie HU, Hong-Qiang CHU
16:20~16:35	Oxygen transportation into non-saturated concrete and induced corrosion of steel bar Zu-Quan JIN, <i>Qingdao University of Technology</i>
16:35~16:50	Integrated technology of electrochemical chloride extraction and reinforcement of corroded reinforced concrete Yue LI, <i>Beijing University of Technology</i>
16:50~17:05	Mechanical performance of concrete structure component after Electrochemical Rehabilitation Jiang-Hong MAO, <i>Sichuan University</i>
17:05~17:20	Case studies of cathodic prevention and cathodic protection for reinforced concrete structures and steel-framed masonry structures Yu-You WU, <i>Foshan University</i>
17:20~17:35	Chloride transport in fiber reinforced mortars under unsaturated and saturated conditions Lin YANG, Zhu-Di CAO, <i>Zhengzhou University</i>
17:35~17:50	Electrochemical performance and functionalization application of carbon fiber under chloride environment Hong-Tao YU, <i>Shenzhen University</i>
17:50~18:05	The influence of lightweight functional aggregates on the acidification damage in the external anode mortar during cathodic protection for reinforced concrete Wen-Hao GUO, Jie HU, <i>Foshan University & South China University of Technology</i>
18:05~18:20	Improvement in the microbially induced corrosion resistance of concrete sewers using Cu ₂ O electrode position Hong-Qiang CHU, <i>Hohai University</i>

Parallel Sessions-2 (PS 2-1)

High/Ultra-High Performance Fiber-Reinforced Cementitious Composites

11th, Mar, 2023

Room: M1125

Zoom ID: 882 3185 2295

Password: ACF2023

Time	Chair: Wei-Wen LI, Jing YU
14:00~14:20	Characterization and modification of interface transition zone in high performance fiber-reinforced concrete En-Hua YANG, <i>Nanyang Technological University</i>
14:20~14:40	Adding hydrated lime for improving microstructure and mechanical properties of mortar for ultra-high performance concrete Gai-Fei PENG, <i>Beijing Jiaotong University</i>
14:40~15:00	Study on mechanism of basic tensile creep of recycled fine aggregate ultra-high performance concrete Tao JI, <i>Fuzhou University</i>
15:00~15:20	Flow-induced steel fiber alignment for improving mechanical performance of UHPC Xiao-Jian GAO, <i>Harbin Institute of Technology</i>
15:20~15:40	Multifunctional stainless steel wires reinforced ultra-high performance concrete for upgrading structural longevity Bao-Guo HAN, <i>Dalian University of Technology</i>
15:40~16:00	Shear Failure Mechanism and Loading-Capacity Model of Reinforced ECC Beams Jin-Long PAN, <i>Southeast University</i>

Parallel Sessions-2 (PS 2-2)

High/Ultra-High Performance Fiber-Reinforced Cementitious Composites

11th, Mar, 2023

Room: M1125

Zoom ID: 882 3185 2295

Password: ACF2023

Time	Chair: Jing YU
16:20~16:40	Sustainable Engineering Cementitious Composites (ECC) with granite fine as fine filler Shun-Zhi QIAN, <i>Nanyang Technological University</i>
16:40~17:00	Effect of waste clay brick powder on key performance of UHS-UHDCC Li-Ping GUO, <i>Southeast University</i>
17:00~17:20	Effect of uniform and non-uniform corrosion on cracking propagation and bonding performance of mortar and ECC specimens Chuan-Qing FU, <i>Zhejiang University of Technology</i>
17:20~17:40	Development of Basalt-fiber ECC Jian ZHOU, <i>Hebei University of Technology</i>
17:40~18:00	Experimental and numerical investigation on the long-term performance of Engineered Cementitious Composites (ECC) with high-volume fly ash Cong LU, <i>Southeast University</i>

Parallel Sessions-2 (PS 2-3)

High/Ultra-High Performance Fiber-Reinforced Cementitious Composites

12th, Mar, 2023

Room: M1125

Zoom ID: 882 3185 2295

Password: ACF2023

Time	Chair: Ye LI, Chang WU
08:00~08:10	Advances of ECC micromechanics Jun-Xia LI, <i>Nanyang Technological University</i>
08:10~08:20	Effect of post-fire curing on strength recovery of thermally damaged ultra-high performance concrete Ye LI, <i>Harbin Institute of Technology, Shenzhen</i>
08:20~08:30	Numerical simulation of the tensile strain hardening and multiple cracking behavior of ECC/SHCC Chang WU, <i>Southeast University</i>
08:30~08:40	Mechanical Performance of Geopolymer Aggregate Engineered Cementitious Composites: Influence of Aggregate Sizes Ling-Yu XU, <i>Zhejiang University</i>
08:40~08:50	Bond-Slip Behaviors of BFRP Bar Embedded in Ecological High Ductility Concrete Using the Beam Test Li-Juan CHAI, <i>Taiyuan University of Technology</i>
08:50~09:00	Strain-hardening cementitious composites with high volume fly ash and non-oiled PVA fibers Chang LIN, <i>Hainan University</i>
09:00~09:10	Deep learning potential for predicting C-S-H/PVA/graphene interfaces Xiao-Ye ZHOU, <i>Shenzhen University</i>
09:10~09:20	Optimal Design of Precast UHPC Utility Tunnel based on Life Cycle Cost Analysis Zhang-Hua XIA, <i>Fuzhou University</i>
09:20~09:30	Recent Advances in self-healing performance of Engineered/Strain-Hardening Cementitious Composite (ECC/SHCC) Feng HU, <i>Sun Yat-Sen University</i>
09:30~09:40	Finite element analysis of heavily-corroded reinforced concrete beam strengthened by high-strength Engineered Cementitious Composites Zi-Hao SONG, <i>Sun Yat-Sen University</i>
09:40~09:50	Development of low-carbon concrete for improving durability of composite foundation with plain concrete piles under marine environment Wei-Peng CHEN, <i>Sun Yat-Sen University</i>

Parallel Sessions-3 (PS 3-1)

Improvement on The Strengthening Efficiency of Concrete Structures with Advanced Composite Materials

11th, Mar, 2023

Room: M1118

Zoom ID: 815 3860 8828

Password: ACF2023

Time	Chair: Da-Wei ZHANG, Yi WANG
14:00~14:15	Hybrid strengthening of concrete beams with shape memory alloy and carbon fiber reinforced polymer plates Jun DENG, <i>Guangzhou University</i>
14:15~14:30	Bond behavior of UHPC-based TRC plate under freeze-thaw cycles Yi WANG, <i>Central South University</i>
14:30~14:45	ChatGPT in Structural Engineering Research Cheng JIANG, <i>Western Sydney University</i>
14:45~15:00	Factors Affecting the Ductility of CFRP-to-concrete Bonded Joints with End Anchors: A Theoretical Study Hao ZHOU, <i>Central South University</i>
15:00~15:15	Axial Compressive Performance of Rectangular Short Concrete Column Strengthened with CFRP Grid Reinforced ECC Matrix Kang-Jian LIN, <i>Zhejiang University</i>
15:15~15:30	Fatigue Performance of Superimposed T-girders under Cyclic Overloading: an Experimental Study Zhi-Yu XIE, <i>Zhejiang University</i>
15:30~15:45	Bond properties of deformed steel bar with geopolymer incorporating multi-walled carbon nanotubes under monotonic load. Wei-Tao LI, <i>Wuhan University</i>
15:45~16:00	Flexural behavior and design methods of concrete beams reinforced with a combination of FRP and steel bars Shui LIU, <i>Southeast University</i>

Parallel Sessions-3 (PS 3-2)

Improvement on The Strengthening Efficiency of Concrete Structures with Advanced Composite Materials

11th, Mar, 2023

Room: M1118

Zoom ID: 815 3860 8828

Password: ACF2023

Time	Chair: Liang-Liang WEI, Zhao WANG
16:20~16:35	Detection of CFRP-concrete bond defects by using electrical measurements Jian-Yan HE, <i>Guangdong university of technology</i>
16:35~16:50	Electrochemical Realization of High-Performance Carbon Fiber as Electrode Materials for Cement-Based Systems Hong-Tao YU, <i>Shenzhen University</i>
16:50~17:05	A study on HyFRCC consisting of PE and carbon fiber: Investigation of electrical and fracture properties based on orthogonal design Hao-Wei SHEN, <i>Shenzhen University</i>
17:05~17:20	Effect of Anodic Polarization on Mechanical Behavior of Carbon Fabric Reinforced Hybrid PE/CF Fiber Cementitious Composites Liang-Liang WEI, <i>Dongguan University of Technology</i>
17:20~17:35	Numerical Evaluation of Space Averaging of Electric Field, Macro-cell Corrosion of Reinforcement and Anti-corrosion with Verification Zhao WANG, <i>Yokohama National University</i>
17:35~17:50	Study of the anode degradation behavior of various CFRP materials in ICCP system Bao ZHONG, <i>Shenzhen University</i>
17:50~18:05	Thermo-hydro-mechanical Analysis of Saturation-dependent Creep Behavior for RC Beam under Sustained Load and Wet-dry Cycles Yi-Ping YANG, <i>Zhejiang university</i>
18:05~18:20	Piezoresistive Effect of Carbon Fabric Reinforced Cement Matrix (CFRCM) under Cyclic Loading Bo YI, <i>ShenZhen University</i>

Parallel Sessions-4 (PS 4-1)

Limestone Calcined Clay Cement Concrete: Material Development, Physical Properties, Structural Implementation and Durability

11th, Mar, 2023

Room: M1110

Zoom ID: 856 0103 3693

Password: ACF2023

Time	Chair: Zhen-Yu HUANG, Meng-Huan GUO
14:00~14:15	Limestone calcined clay cement (LC3) concrete and LC3 concrete structure: research status in Shenzhen University Ying-Wu ZHOU, <i>Shenzhen University</i>
14:15~14:30	Development and structural implementation of LC3 concrete using raw materials in South China Zhen-Yu HUANG, <i>Shenzhen University</i>
14:30~14:45	Multiscale modelling of LC3 concrete performance Tiao WANG, <i>The University of Tokyo</i>
14:45~15:00	Performance assessment of LC3 concrete structures considering life-cycle cost and environmental impacts Xiao-Xu HUANG, <i>Shenzhen University</i>
15:00~15:15	Performance evaluation of recycled aggregate concrete incorporating limestone calcined clay cement (LC3) Meng-Huan GUO, <i>Shenzhen University</i>
15:15~15:30	Development of ultra-lightweight low-carbon LC3 cement composites (ULLC-LC3): mechanical performances, chloride resistance, carbonation resistance and life cycle assessment Li-Jie CHEN, <i>University of Hong Kong</i>
15:30~15:45	Experimental study on the effect of sea water on the hydration behavior and compressive strength of LC3 cement Satya Medepalli (Online), <i>The University of Tokyo</i>
15:45~16:00	The Rheological Characteristics and mechanism of the Limestone Calcined Clay Cement Peng-Kun HOU, Xin CHENG (Online), <i>University of Jinan</i>

Parallel Sessions-4 (PS 4-2)

Limestone Calcined Clay Cement Concrete: Material Development, Physical Properties, Structural Implementation and Durability

11th, Mar, 2023

Room: M1110

Zoom ID: 856 0103 3693

Password: ACF2023

Time	Chair: Zhen-Yu HUANG, Meng-Huan GUO
16:20~16:35	Use of LC3 for Sustainable Urban Development Hong-Jian DU (Online), <i>National University of Singapore</i>
16:35~16:50	Multiscale Investigation on the Performance of Engineered Cementitious Composites Incorporating PE Fiber and Limestone Calcined Clay Cement (LC3) Guo-Qiang GONG, <i>Shenzhen University</i>
16:50~17:05	Using limestone calcined clay cement and recycle fine aggregate to make eco-friend ultra-high performance concrete: properties and environmental impact Ding-Cong GUO, <i>Shenzhen University</i>
17:05~17:20	Study on hydration mechanism of limestone calcined clay cement (LC3) blended with seawater Ru-Yin ZHANG, <i>Shenzhen University</i>
17:20~17:35	Quantification Assessment on Chemicals and Pore Structures of Limestone Calcined Clay Cement under Carbonation Zu-Hua XU, <i>Shenzhen University</i>
17:35~17:50	Hydration Accelerating Effect and Strength Characteristics of Mixed Cement by C-S-H Based Hydration Core Jeongmin RA (Online), <i>Kongju National University</i>

Parallel Sessions-5 (PS 5-1)

Sustainable Construction Materials Towards Carbon Neutrality

11th, Mar, 2023

Room: M1108

Zoom ID: 849 4369 0562

Password: ACF2023

Time	Chair: Pan FENG, Zhen-Hua DUAN
14:00-14:15	Use of luminescent-glass aggregates and CO ₂ curing treatment for the production of decorative concrete products Tung-Chai LING, <i>Hunan University</i>
14:15-14:30	Surface treatment of cement-based materials by anti-ultraviolet aging hybrid nanoparticles Yue GU, <i>Hohai university</i>
14:30-14:45	Utilization of dredged sediment in magnesium oxychloride cement to improve water resistance Zi-Jian SONG, <i>Hohai University</i>
14:45-15:00	High-temperature performance of SCMs blended cementitious materials subject to CO ₂ curing Ming-Zhi GUO, <i>Hohai University</i>
15:00-15:15	Carbon Footprint Analysis of Graphene Nanofluid Additive Modified Cement Materials Based on LCA Evaluation Zhi-Jian YAO, <i>Shenzhen University</i>
15:15-15:30	Application of Cement-based Inorganic Cementitious Coating Modified by Graphene-titanium dioxide Composite Fibers Xiang-Fei WANG, <i>Shenzhen University</i>
15:30-15:45	Mitigating shrinkage of alkali-activated slag pastes by cellulose fibre Xin-Yan LIU, <i>Univeristy of Nottingham Ningbo China</i>
15:45-16:00	Development of lightweight engineered geopolymer composite with fly ash cenospheres Jia-Qi WU, <i>University of Nottingham Ningbo China</i>

Parallel Sessions-5 (PS 5-2)

Sustainable Construction Materials Towards Carbon Neutrality

11th, Mar, 2023

Room: M1108

Zoom ID: 849 4369 0562

Password: ACF2023

Time	Chair: Ming-Zhi GUO, Bo LI
16:20-16:35	Nano/micro structure of C-S-H and its application Pan FENG, <i>Southeast University</i>
16:35-16:50	Investigation on the recycled aggregate from worn ballast in heavy haul railways Wen-Jun ZHU, <i>Tongji University</i>
16:50-17:05	Preparation of reactive urchin-like recycled concrete aggregate by wet carbonation: towards improving the bonding capacity Pei-Liang SHEN, <i>Hong Kong Polytechnic University</i>
17:05-17:20	Valorization of Waste Glass in Low Carbon Products Jian-Xin LU, <i>Hong Kong Polytechnic University</i>
17:20-17:35	Formulation and properties of municipal solid waste incineration fly ash for cement solidification using orthogonal tests Kai Lyu, <i>Hohai University</i>
17:35-17:50	Comparative study on the effect of fiber type on the abrasion resistance of recycled aggregate concrete Qi DENG, <i>Tongji University</i>
17:50-18:05	Life Cycle Assessment of Upcycling CO ₂ Pre-treated Waste Slags in Cement Paste: Comparative Study between Yellow Phosphorus Slag and Basic Oxygen Furnace Slag Xin SHAO, <i>Hunan University</i>
18:05-18:20	Recovery of vaterite CaCO ₃ from recycled concrete fines for use in profiting the cementitious properties of cement pastes Hamideh Mehdizadeh, <i>Hunan University</i>
18:20-18:35	Carbonation characteristics of BOFS aggregate and properties analysis of carbonated pure BOFS blocks Qi-Feng SONG, <i>Hunan University</i>
18:35-18:50	Effect of early carbonation and hydration on high temperature performance of cement blocks Zhe YU, <i>Hunan University</i>

Parallel Sessions-6 (PS 6-1)

FRP/Fibre Textile-Reinforced Cementitious Composites

12th, Mar, 2023

Room: M1123

Zoom ID: 869 6653 3158

Password: ACF2023

Time	Chair: Guang-Ming CHEN, Yu ZHENG
08:00~08:15	Development of 3D printable ECC and its bio-mimetic flexural members Jiang-Tao YU, <i>Tongji University</i>
08:15~08:30	Axial Behavior of CFRP Grid Confined Concrete Yi TAO, <i>Xi'an University of Architecture and Technology</i>
08:30~08:45	Bending Tests of Corroded RC Continuous Beams Strengthened with ICCP-SS Dual-Function Retrofitting System Ran FENG, <i>Harbin Institute of Technology (HIT, Shenzhen)</i>
08:45~09:00	Development and Behavior of Novel FRP-UHPC Tubular Members Jun-Jie ZENG, <i>Guangdong University of Technology</i>
09:00~09:15	Local compressive behavior and seismic performance of ECC ring beam connection Bing-Qing DONG, <i>Shandong Jianzhu University</i>
09:15~09:30	Fire resistance performance of concrete-filled steel tubular column protected by FRCC-ECC Yan XIONG, <i>South China University of Technology</i>
09:30~09:45	Bonding mechanism between FRP rebar and self-compacting concrete: a multiscale investigation Ren-Yuan QIN, <i>Dongguan University of Technology</i>
09:45~10:00	Flexural Behaviour of Corroded RC Continuous Beams with C-FRCM Strengthening System Pan-Pan LIU, <i>Harbin Institute of Technology, Shenzhen</i>

Parallel Sessions-6 (PS 6-2)

FRP/Fibre Textile-Reinforced Cementitious Composites

12th, Mar, 2023

Room: M1123

Zoom ID: 869 6653 3158

Password: ACF2023

Time	Chair: Ran FENG, Jun-Jie ZENG
10:20~10:35	FRP textile reinforcements for tailorable multi-scale fiber reinforced cementitious composites Peng FENG, <i>Tsinghua University</i>
10:35~10:50	Seismic behavior of engineered cementitious composites coupling beams with low aspect ratio Zuan-Feng PAN, <i>Tongji University</i>
10:50~11:05	Experimental and numerical investigation on the dynamic behavior of RC bridge columns confined with CFRP/ECC subjected to truck collision Wen-Wei Wang, <i>Southeast University</i>
11:05~11:20	Creep behavior of hybrid FRP-concrete-steel double-skin tubular columns under sustained loading Guang-Ming CHEN, <i>South China University of Technology</i>
11:20~11:35	Structural behavior of ECC link slabs strengthened with GFRP reinforcement Yu ZHENG, <i>Dongguan University of Technology</i>
11:35~11:50	Compressive behavior of UHPC under active confinement Jun-Jie WANG, <i>Huazhong University of Science and Technology</i>
11:50~12:05	Experimental and numerical investigation of reinforced concrete beams strengthened with internal CFRP meshes in shear Bo DI, <i>Dongguan University of Technology</i>
12:05~12:20	Interfacial approaches for toughness enhancement in fiber reinforced cementitious composite from nano to macroscale Hui-Nan WEI, <i>Harbin Institute of Technology</i>

Parallel Sessions-7 (PS 7)

High-Performance Hybrid/Composite Structures Combining Concrete with Various Constructional Materials

12th, Mar, 2023

Room: M1125

Zoom ID: 882 3185 2295

Password: ACF2023

Time	Chair: Ju CHEN, Fei XU
10:20~10:35	Load Distribution Factors in Curved Composite Multi-Box Girder Bridges with Corrugated Steel Web Li-Yan XU, <i>Beihang University</i>
10:35~10:50	Comparison of Two Wind Turbine Hybrid Tower Transition Pieces: Reinforced Concrete Configuration, and Concrete-Filled Steel Tube Configuration Xiao-Gang HUANG, Yu-Hang WANG, <i>Chongqing University</i>
10:50~11:05	Experimental study on seismic performance of composite beam with laminated slabs using comprehensive anti-cracking technology Juan CHEN, <i>Nanjing University of Aeronautics and Astronautics</i>
11:05~11:20	Lateral cyclic loading tests of precast recycled fine aggregate concrete shear wall with pressed sleeve connections An HE, <i>South China University of Technology</i>
11:20~11:35	Eccentric Compressive Behavior of Circular Concrete-filled Steel Tubes with Internal Latticed Steel Angles Ju CHEN, <i>Zhejiang University</i>
11:35~11:50	Compound Concrete Filled FRP Tubular Columns Containing Recycled Concrete Lumps Guan LIN, <i>Southern University of Science and Technology</i>
11:50~12:05	Behavior of Infilled RC Frames under Out-of-Plane Lateral Loads using Digital Image Correlation Techniques Syed Humayun Basha, <i>Huaqiao University, Xiamen</i>
12:05~12:20	Study on mechanical properties of transverse bolted connection of segmental prefabricated diaphragm walls Yi-Lin ZHENG, <i>Zhejiang University of Science & Technology</i>

Parallel Sessions-8 (PS 8)

The First Greater Bay Area Forum on Low Carbon Construction Materials and Technologies (LCCMT)

12th, Mar, 2023

Room: M1118

Zoom ID: 815 3860 8828

Password: ACF2023

Time	Chair: Guo-Hao FANG, Yan-Shuai WANG
08:00-08:20	Application of molecular dynamics simulation in green building materials Dong-Shuai HOU, <i>Qingdao University of Technology</i>
08:20-08:40	Application of nano-foam concrete in prefabricated products and cast-in-place projects Guo-Xing SUN, <i>University of Macau</i>
08:40-09:00	Use of Biochar and Dioxide Curing for Production of Low-Carbon Cement-Based Composites Lei WANG, <i>Zhejiang University</i>
09:00-09:15	Extrusion-based 3D printing of Ultra-High Performance Strain-Hardening Cementitious Composites (UHP-SHCC) Ye QIAN, <i>The University of Hong Kong</i>
09:15-09:30	Development of artificial geopolymer aggregates with thermal energy storage capacity Jian-Cong LAO, <i>The Hong Kong Polytechnic University</i>
09:30-09:45	Geopolymer-based sub-ambient daytime radiative cooling coating Ning YANG, <i>The Hong Kong Polytechnic University</i>
09:45-10:00	Alkali-activated Artificial Aggregates Made from Red mud Kai-Ge TIAN, <i>Shenzhen University</i>

Parallel Sessions-9 (PS 9)

Properties of Seawater and Sea-Sand Concrete (SSC)

12th, Mar, 2023

Room: M1118

Zoom ID: 815 3860 8828

Password: ACF2023

Time	Chair: Jun LIU, Zhi-Lu JIANG
10:20-10:35	Development of low-alkalinity seawater sea sand concrete for BFRP bar reinforced marine infrastructure De-Ju ZHU, <i>Hunan University</i>
10:35-10:50	Effect of seawater sea-sand concrete on tensile strength reduction of GFRP rebars and corresponding degradation mechanism Peng WANG, <i>Hong Kong University of Science and Technology</i>
10:50-11:05	Chloride-binding capacity of cement-GGBFS-nanosilica composites under seawater chloride-rich environments Fu-Lin QU, <i>The Hong Kong Polytechnic University</i>
11:05-11:20	The Mechanism of Performance Difference Between Seawater Sea-sand and Freshwater River-sand Ultra High Performance Concrete Based on X-CT Technology Fang-Ying SHI, <i>Hohai University</i>
11:20-11:35	Experimental study on mechanical properties of seawater sea-sand concrete with sea-sands from different regions Shuai-Cheng GUO, <i>Hunan University</i>
11:35-11:50	Durability study of sea-sand concrete under the combined effects of carbonation and chloride redistribution Yong-Qiang LI, <i>Shenzhen University</i>
11:50-12:05	Flexural behaviour of seawater sea-sand coral aggregate concrete beams reinforced with FRP bars Fang YUAN, <i>Shenzhen University</i>
12:05-12:20	Study on the durability of seawater and sea-sand concrete Zhi-Lu JIANG, <i>Zhejiang University of Technology</i>
12:20-12:35	Performance and characterization of seawater blended cement-based material incorporated with polycarboxylate superplasticizer Xian-Feng WANG, <i>Shenzhen University</i>
12:35-12:50	Effects of gypsum and premixed chlorides on hydration and binding mechanism for CSA cement Ze-Chun SU, <i>Shenzhen University</i>

Parallel Sessions-10 (PS 10-1)

Self-Healing/Self-Immune Concrete

12th, Mar, 2023

Room: M1110

Zoom ID: 856 0103 3693

Password: ACF2023

Time	Chair: Xin-Chun GUAN, Le-Yang LV
08:00-08:15	Application of zeolitic imidazolate framework (ZIF-8) as high-efficient corrosion inhibitor for the reinforcement in cement extract Jie HU, <i>South China University of Technology</i>
08:15-08:30	Use of recycled concrete aggregates as carriers for concrete self-healing by high urease activity bacteria Jing XU, <i>Tongji University</i>
08:30-08:45	Self-healing of Cracks Based on Aggressive-ion-bonding Agent in Cement-based Materials in Sea Water Hao-Liang HUANG, <i>South China University of Technology</i>
08:45-09:00	Mechanical property and durability of mortar containing double-layers capsules Hong-Lei CHANG, <i>Shandong University</i>
09:00-09:15	Freeform embedded printing of vasculature in cementitious materials for healing-agent transport Yuan-Yuan ZHANG, <i>Shenzhen University</i>
09:15-09:30	An analysis on shear damage cracking of self-healing cementitious materials with microcapsule on peridynamic constitution model Jun REN, <i>Yunnan University</i>
09:30-09:45	Preparation and properties study of expansive mineral-based artificial aggregates for self-healing concrete Jing-Lu LI, <i>Harbin Institute of Technology</i>
09:45-10:00	Experimental Study on the Repair Effect of Electrochemical Chloride Extraction for Corroded Reinforced Concrete Kazuhide Nakayama, <i>Tokyo Institute of Technology</i>

Parallel Sessions-10 (PS 10-2)

Self-Healing/Self-Immune Concrete

12th, Mar, 2023

Room: M1110

Zoom ID: 856 0103 3693

Password: ACF2023

Time	Chair: Hao-Liang HUANG, Du-Jian ZOU
10:20-10:35	Analytical models on the influence of crack geometrical pattern on capsule dosage Hui-Su CHEN, <i>Southeast University</i>
10:35-10:50	Quartz sand modified enamel coating for enhanced corrosion resistance of steel rebar Fu-Jian TANG, <i>Dalian University of Technology</i>
10:50-11:05	Experimental and numerical study of crack behavior for capsule-based self-healing cementitious materials Hong-Zhi ZHANG, <i>Shandong University</i>
11:05-11:20	Mechanical properties of microcapsule-based self-healing concrete interface: a molecular dynamics study Wei XIE, <i>Shenzhen University</i>
11:20-11:35	Effect of superabsorbent polymer on self-healing performance of fly ash-cement systems Jing-Jing Lyu, <i>Harbin Institute of Technology</i>
11:35-11:50	Calcium leaching from cement hydrates exposed to aggressive environments Ming ZHANG, <i>Harbin institute of technology (shenzhen)</i>
11:50-12:05	Establishment of a prediction model of the failure thickness of concrete under sulfate attack Shan-Shan QIN, <i>Shenzhen Polytechnic</i>
12:05-12:20	Potential of nano-engineered concrete as a repair material for deteriorated concrete structures Xin-Yue WANG, <i>Dalian University of Technology</i>

Parallel Sessions-11 (PS 11)

Valorization of Waste FRP Composites for Use in Civil Engineering

12th, Mar, 2023

Room: M1108

Zoom ID: 849 4369 0562

Password: ACF2023

Time	Chair: Jun WANG, Yu-Lei BAI
08:00-08:15	Influence of recycling and treatment technology of fiber reinforced composite waste on high value application in civil engineering Rong-Qi ZHANG, <i>The China National Resources Recycling Association</i>
08:15-08:30	Performance Evaluation of Waste GFRP Powder/GGBS-Based Geopolymer Mortars for Rapid Repair of Concrete Jun WANG, <i>NanJing Tech University</i>
08:30-08:45	Impact behavior of waste polyethylene terephthalate fiber reinforced concrete with recycled aggregate Yu-Lei BAI, <i>Beijing University of Technology</i>
08:45-09:00	Study on phase reconfiguration and alkali-aggregate reaction of regenerated glass fibers based on GFRP Long-Gui PENG, <i>Xi'an University of Science and Technology</i>
09:00-09:15	Novel green concrete using plasma-treated recycled PET Hua-Li HAO, <i>Wuhan University</i>
09:15-09:30	Mechanical properties of concrete containing macro fibers recycled from GFRP waste: Effects of fiber length and volume fraction Qi-Qi ZOU, <i>Southern University of Science and Technology</i>
09:30-09:45	Ultra-high performance concrete reinforced with macro fibres recycled from a decommissioned turbine blade Li-Bing LIN, <i>Ji'nan University</i>
09:45-10:00	Mechanical properties of recycled carbon fiber reinforced cementitious matrix composites Pi-Yu CHEN, <i>Harbin Institute of Technology (Shenzhen)</i>
10:20-10:35	Improved interfacial strength of carbon fiber in cement matrix by electrophoretic deposition Zi-Qi LI, <i>Shenzhen University</i>

Parallel Sessions-12 (PS 12)

Low-Carbon and Sustainable Concrete

12th, Mar, 2023

Room: M1108

Zoom ID: 849 4369 0562

Password: ACF2023

Time	Chair: Wu-Jian LONG, Jin-Rui ZHANG
10:20-10:35	Green and low-carbon cement with sintered sludge: Microstructure and performance Jin-Rui ZHANG, <i>Tianjin University</i>
10:35-10:50	A general approach to exfoliate and disperse 2D nanomaterials for improving cement hydration and chloride binding Wu-Jian LONG, <i>Shenzhen University</i>
10:50-11:05	Effect of <i>Carya Cathayensis</i> Peels Biochar on Basic Properties of Cementitious Material Wen XUE, <i>Zhejiang University of Science and Technology</i>
11:05-11:20	Self-healing of inorganic porous aggregate in concrete: Methods, Characterization and Application He-Ming SUN, <i>Shenzhen University</i>
11:20-11:35	Enhancing recycled fine concrete aggregate by a two-step wet carbonation process Xiao-Liang FANG, <i>Ningbo University</i>
11:35-11:50	Investigation on the effect of reinforcement confinement on the mechanical property of ASR damaged concrete by 3D RBSM Jie LUO, <i>The University of Tokyo</i>
11:50-12:05	Flexural behavior of RC one-way slabs strengthened by carbon FRCM system Tuvshin Ochirbud, <i>Hankyong National University</i>
12:05-12:20	Basic Properties of Cement Mortar used Carbonated Water as Mixing Water Sang-Chul SHIN (Online), <i>Kongju National University</i>

Parallel Sessions-13 (PS 13)

Novel & High-Performance Materials for Sensing and Improving the Serviceability of Transportation Infrastructure

12th, Mar, 2023

Room: M1126

Zoom ID: 842 8398 9684

Password: ACF2023

Time	Chair: Hai-Jun ZHOU, Cong MA
08:00-08:15	A TFM method for the detection of internal defects in concrete using ultrasound array Li-Fan RONG, <i>Shijiazhuang Tiedao University</i>
08:15-08:30	Preparation and mechanism of high early strength sulphoaluminate cement-based UHPC Xuan QI, <i>ShenZhen University</i>
08:30-08:45	Theoretical and experimental studies on accurate cable tension identification of short cables Chang-Zhao LI, <i>State Key Laboratory of Safety and Health for In-service Long Span Bridge</i>
08:45-09:00	Comparative study of different molecular structures of diluents on the curing of epoxy adhesives and the bonding properties with concrete Yao HAO, <i>Central South University</i>
09:00-09:15	Bond performance and mechanisms of sulphoaluminate cement-based UHPC for reinforcing old concrete substrate Ye-Ting LI, <i>ShenZhen University</i>
09:15-09:30	Application of Deflection Dynamic Load Allowance Test Method of Simply Supported Girder Bridge Based on Suspension Hammer System Yong-Jun ZHOU, <i>Chang'an University</i>
09:30-09:45	Temperature effects of CRTS II slab track under various field meteorological conditions Rui ZHOU, <i>Shenzhen University</i>
09:45-10:00	Moisture diffusion behavior in cementitious materials with carboxylic acid hydrophobic agent Hao ZHANG, <i>State key laboratory of high performance civil engineering materials</i>
10:20-10:35	The role of supplementary materials on micro/macro properties and water stability of magnesium phosphate cement Chao-Fan WANG, <i>Shanghai Jiao Tong University</i>
10:35-10:50	Rheological Properties of Ultra High Performance Concrete and its Viscosity Control for Application Jian-Zhong LIU, <i>Jiangsu Sobute New Materials Co., Ltd</i>

Parallel Sessions-14 (PS 14)

Issues And Measure for Concrete Structures in Hot Weather Conditions

11th, Mar, 2023

Zoom ID: 842 8398 9684

Password: ACF2023

Time	Chair: To be announced
16:20-16:35	Activity of ACF Technical Committee 2 (TC2): Concrete practices and feasible measures for construction and design in hot weather conditions based on material characteristics Shingo Asamoto, <i>Saitama University</i>
16:35-16:50	Risk of thermal cracking in mass concrete footing construction under hot weather condition Thiyagaraja Prasanthan, Shingo Asamoto, <i>Saitama university</i>
16:50-17:05	Study on chloride binding property of slag blended cement considering different slag blending ratios Yao LUAN, <i>Saitama University</i>
17:05-17:20	The application of newly developed test methods to prevent the damages caused by oxidation of iron sulfide in aggregates Thuraisingam Jeyakaran, <i>Thammasat University</i>
17:20-17:35	Study on effect of internal swelling reaction in concrete on structural performance of prestressed concrete beams Shingo Asamoto, <i>Saitama University</i>
17:35-17:50	3D Finite Element Analysis of Steel Fiber Reinforced Ultra-high Strength Concrete Beam-column Joints Hiroto Takatsu, <i>Takenaka Corporation</i>
17:50-18:05	Influence of Cover depth and mortar quality on Rebar corrosion under aggressive chloride environment Muhammad Afaq Khalid, <i>Kanazawa Institute of Technology (KIT)</i>
18:05-18:20	Ultimate strength determination of reinforced concrete dapped end beams based on a physical model Takeru Kanazawa, <i>Hokkai Gakuen University</i>

● Journal Special Issues ●

Special issues for 'The 4th Asian Concrete Federation Symposium _ Emerging Technologies for Structural Longevity'

We are honored to announce that two international scientific journals, <Structural Concrete> and <Journal of Advanced Concrete Technology> have decided to host special issues for "the 4th Asian Concrete Federation Symposium - Emerging Technologies for Structural Longevity" with respect to the topics of concrete structures and concrete materials separately. Abstracts submitted to this conference which covers the topics of the Journals are invited to submit a full paper to the special issues.

Submission procedure

- Abstracts of max. 200 words should be sent to any of the four guest editors of each special issue. Authors with accepted abstract will be informed by email to submit the manuscript through the online submission system of the journals.
- The submission of full manuscripts should be prepared according to the journal submission guidelines. Submissions will undergo the usual peer-review process of each journal and are expected to address the topic and contain new and previously unpublished material.
- The papers submitted to the special issue will be available online as soon as the review procedure is completed and accepted by the journals.

Deadline

- **28th February 2023:** Abstract submission
- **31st August 2023:** Full paper submission



<Structural Concrete>



<Journal of Advanced Concrete Technology>

Structural Concrete Special Issue for 'The 4th Asian Concrete Federation Symposium on Emerging Technologies for Structural Longevity'

About this journal

Structural Concrete is the official journal of the fib, provides conceptual and procedural guidance in the field of concrete construction, and features peer-reviewed papers, keynote research and industry news covering all aspects of the design, construction, performance in service and demolition of concrete structures. The journal now has an impact factor of 3.131.

Topics

A recent innovation in concrete materials, technologies and devices has enabled the design, construction, maintenance and recycling of sustainable and durable concrete structures. This Special Issue, entitled 'Emerging Technologies for Structural Longevity', is to introduce the latest developments and advances that address the global sustainability challenges in the life-cycle performance of concrete structures. A total of 25-30 papers will be included in this Special Issue. The topics include, but are not limited to:

- Prefabricated/modular-integrated concrete construction
- Durability and life-cycle performance of concrete structures
- Inspection and assessment of concrete structures
- Protection, repair and strengthening of concrete structures
- Structures with seawater and sea-sand concrete
- Structures with high-performance concrete
- Structures with recycled materials
- Structures with green materials

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Journal of Advanced Concrete Technology Special Issue for 'The 4th Asian Concrete Federation Symposium on Emerging Technologies for Structural Longevity'

About this journal

Journal of Advanced Concrete Technology (JACT) is an open access international journal for publishing high quality articles on concrete materials, concrete structures and other related subjects toward the advancement of concrete engineering field. All articles in JACT are free to access and download. Also, there are no charges for submission and publication of the articles. The journal now has an impact factor of 2.459.

Topics

Sustainable concrete infrastructure requires the use of innovative construction materials that exhibit exceptional properties (e.g., highly durable, environmentally friendly, functional, smart, aesthetically pleasing etc.) and meet the changes of construction technologies (e.g., digitalized construction). In particular, it is worth noting that global construction accounts for 39% of total global CO₂ emission. To achieve the carbon neutrality goal in a global scale by the mid-century, it is of paramount importance to use construction materials with less embodied carbon and construction technologies that consume less energy and emit less carbon. In view of a substantial number of submissions submitted to ACF2023_ETSL on innovative construction materials, a special issue will be organized for the Journal of Advanced Concrete Technology dedicated to the theme of "Low Carbon Construction Materials and Technologies". The non-exhaustive list of envisaged topics includes:

- Low carbon/clinker-free cement concrete;
- Material design for the recycling of industrial and household wastes;
- Reaction mechanisms and microstructures evolution;
- Micro-mechanics and numerical modeling;
- Mechanical properties;
- Durability;
- Environmental assessment.

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