NUS National University of Singapore | Department of Civil & Environmental Engineering, College of Design and Engineering

Celebrating our achievements
Innovating the future

5th Asian Concrete Federation Symposium

Advancing Sustainable Solutions: from Concept to Concrete

November 14-16, 2025
Singapore

Sponsors:

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Contents

Welcome Address

Professor Caijun SHI

Conference Chair

President of Asian Concrete Federation

To provide a good platform for technical exchanges and collaborations, the Asian Concrete Federation (ACF) holds an international conference and symposium every other year. The ACF 10th International Conference on Durability and Sustainability in Concrete Materials and Structures in Ulaanbaatar, Mongolia, 15-18 August 2024. After the 1st symposium in Kolkata (2015), the 2nd one in Chiang Mai (2017), the 3rd one in Sapporo (2019), and the 4th one in Shenzhen (2023), the 5th ACF Symposium on Advancing Sustainable Solutions from Concept to Concrete is held in Singapore between November 14-16, 2025. This symposium aims to address challenges in achieving a balance between growth and sustainability in the construction industry.

During the workshop, several ACF Technical Committees will have their meetings, and special sessions will be held for students to present and exchange their ideas. Renowned experts from the Asian Pacific region are invited to deliver keynote presentations, sharing the latest research findings and insights. We warmly invite researchers, engineers, and construction experts in the related field to attend this milestone event!

Professor Sze Dai PANG

Conference Chair

National University of Singapore

It is with great pleasure that I welcome all delegates, researchers, and industry professionals to the 5th Asian Concrete Federation (ACF) Symposium, hosted here at the National University of Singapore (NUS). This year's symposium carries special significance as it coincides with the 70th anniversary of the NUS Department of Civil and Environmental Engineering (CEE)—a proud milestone that celebrates our legacy of excellence, innovation, and impact.

The theme of this year's symposium resonates strongly with the enduring mission of our Department and the ACF community: to advance the science and technology of cement and concrete towards a lower-carbon, more resilient built environment. As the challenges of climate change and sustainability intensify, our shared responsibility to develop more durable, resource-efficient, and environmentally responsible materials has never been greater.

This symposium serves as a vital platform for the concrete community, uniting academic experts, industry innovators, and policy leaders, to exchange ideas, showcase research breakthroughs, and inspire new directions for the future of construction materials. The collective wisdom and collaboration fostered here will undoubtedly contribute to a more sustainable and circular construction ecosystem across our region.

At NUS, we are committed to driving this transformation from knowledge to practice. The establishment of our Centre for Resource Circularity and Resilience (CR2) marks a key step in this journey. CR2 aims to accelerate the adoption of innovative solutions emerging from our research, bridging academia and industry to realise a more circular and resilient built environment. We look forward to forging new partnerships and strengthening existing ones through this symposium and beyond.

On behalf of the Organising Committee, I extend my deepest gratitude to all our speakers, participants, sponsors, and partners for your invaluable contributions. Your presence here exemplifies the spirit of collaboration and innovation that defines the ACF community.

Let us use this occasion not only to exchange knowledge but also to inspire one another—to build smarter, stronger, and more sustainable cities for generations to come. Welcome once again to Singapore, and to the 5th Asian Concrete Federation Symposium. May this gathering be a fruitful and memorable experience for all.

About the Symposium

To provide a good platform for technical exchange and collaboration, the Asian Concrete Federation (ACF) holds an international symposium every two years. After the 1st symposium in Kolkata (2015), the 2nd one in Chiang Mai (2017), the 3rd one in Sapporo (2019), and the 4th one in Shenzhen (2023), the 5th ACF Symposium and ACF Technical Committee Meetings on Advancing Sustainable Solutions from Concept to Concrete is held in Singapore between November 14-16, 2025. This symposium aims to address challenges in achieving a balance between growth and sustainability in the construction industry. Researchers, engineers, and construction experts in the related field are welcomed.

Symposium Topics

1. Circular Economy in Construction
2. Carbon Reduction Strategies
3. Supplementary Cementitious Materials
4. Green Concrete Technologies
5. Energy Efficiency in Construction Materials
6. Life Cycle Assessment
7. Sustainable Solutions in Urban Planning and Building Design
8. Standards and Regulations for Sustainable Construction
9. Innovative Durable Construction Materials

Technical Committee Meeting Schedule

Venue: Shaw Foundation Alumni House, 11 Kent Ridge Drive, Singapore, 119244.

Date	Time	Technical Committee Meeting			
		Basil	Lemongrass		
Friday November 14, 2025	14:00-16:00	TC-FRP	AGM		
	16:00-18:00	TC-GC	AGM		
	18:00-20:00	TC-LCM	TC-SCM		

Instructions for Session Chairs:

(1) Please arrive at the assigned venue at least 10-15 minutes before the start of your session.
(2) Check and transfer all presentation files to the laptop provided in the room. Ensure that each file opens and displays correctly.
(3) A NUS student/helper will be present in each room to assist with logistics, technical setup.
(4) Kindly ensure that each presentation starts and ends on time to keep the symposium schedule on track.
(5) In case of technical issues, please alert the helper immediately for assistance.

Instructions for Speakers:

(1) Please report to your assigned session venue at least 10 minutes before the start of your session.
(2) Introduce yourself to the session chair and transfer your presentation file to the laptop provided in the room. Ensure that your slides are displayed correctly.
(3) Keep strictly within the allocated presentation time.

5th ACF Symposium Schedule Overview

Venue: Shaw Foundation Alumni House, 11 Kent Ridge Drive, Singapore, 119244.								
Date	**Time**	**Conference Agenda**						
Fri Nov 14	**14:00-18:00**	**Registration (Level 2 Benefactor's Foyer; refer to Page 34)**						
Sat Nov 15	**08:15-09:00**	**Registration**						
	09:00-09:20	**Opening Ceremony**						
	09:20-10:00	**Keynote Presentation (Auditorium)**						
	10:00-10:10	**Photo-Taking**						
	10:10-10:40	**Coffee Break**						
	10:40-12:20	**Keynote Presentation (Auditorium)**						
	12:20-13:30	**Lunch**						
	13:30-15:10	Fellow/Award Recipient Lecture (Auditorium)	Geopolymer Concrete (Sesame)	Carbon Mineralization (Saffron)	Supplementary Cementitious Materials (Coriander)	Test Methods, Algorithm, & Life Cycle Assessment (Lavender)	UHPC & Fiber-Reinforced Composites (Lemongrass)	Graduate Forum (Sage)
	15:10-15:40	**Coffee Break**						
	15:40-17:20	Fellow/Award Recipient Lecture (Auditorium)	Geopolymer Concrete (Sesame)	Carbon Mineralization (Saffron)	Supplementary Cementitious Materials (Coriander)	Test Methods, Algorithm, & Life Cycle Assessment (Lavender)	UHPC & Fiber-Reinforced Composites (Lemongrass)	Graduate Forum (Sage)
	18:00-20:30	**Conference Banquet**						
Sun Nov 16	**08:45-10:25**		3D Printing Concrete (Sesame)	Sustainable Concrete Materials (Saffron)	Supplementary Cementitious Materials (Coriander)	Test Methods, Algorithm, & Life Cycle Assessment (Lavender)	Concrete Durability (Lemongrass)	Graduate Forum (Sage)
	10:25-10:50	**Coffee Break**						
	10:50-12:30		3D Printing Concrete (Sesame)	Carbon reduction strategies (Saffron)	Supplementary Cementitious Materials (Coriander)	Test Methods, Algorithm, & Life Cycle Assessment (Lavender)	Concrete Durability (Lemongrass)	Graduate Forum (Sage)
	12:30-13:30	**Lunch**						
	13:30-15:10	**Keynote Presentation (Auditorium)**						
	15:10-15:30	**Coffee Break**						
	15:30-16:35	**Keynote Presentation (Auditorium)**						
	16:35-16:45	**Closing Ceremony**						

Organizations

Host

Asian Concrete Federation

Organizers

National University of Singapore (NUS)

Hunan University

Supporting Organizations

International Federation for Structural Concrete (fib)

Japan Concrete Institute (JCI)

Korean Concrete Institute (KCI)

Indian Concrete Institute (ICI)

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President of the ACF, Hunan University, China

Pang, Sze Dai
National University of Singapore, Singapore

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Tuan, Nguyen Van	Hanoi University of Civil Engineering, Vietnam
Ueda, Tamon	Shenzhen University, China
Wang, Qiang	Tsinghua University, China
Wu, Xiangguo	Harbin Institute of Technology, China
Xiao, Jianzhuang	Tongji University, China
Yagaanbuyant, Duinkherjav	Mongolian Concrete Association, Mongolia
Yokota, Hiroshi	Hokkaido University, Japan
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Zhang, Yamei	Southeast University, China
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Zhuge, Yan	University of South Australia, Australia

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Keynote Speakers

Prof. Tamon Ueda

Distinguished Professor at Shenzhen University, China. Professor Emeritus of Hokkaido University, Japan

Prof. Tamon Ueda is a Distinguished Professor at the College of Civil and Transportation Engineering, Shenzhen University, and Professor Emeritus of Hokkaido University. He earned his Doctor of Engineering degree from The University of Tokyo in 1982. His research focuses on life cycle management of concrete and hybrid structures, particularly life cycle prediction and interventions. He has contributed extensively to academia, with over 300 peer-reviewed papers, 60 invited papers at international conferences, and 200 invited lectures and organized sessions across 17 countries. Dr. Ueda holds prestigious appointments at various institutions, including Sea-Sky Scholar at Dalian University of Technology, Pao Yu-Kong Chair Professor at Zhejiang University, Distinguished Visiting Professor at Shenzhen University, and Visiting Professor at Sirindhorn International Institute of Technology. Dr. Ueda has held leadership roles in numerous organizations and his outstanding achievements have earned him numerous awards.

Prof. Caijun Shi

President of ACF and Chair Professor of Hunan University, China

Prof. Caijun Shi is the President of Asian Concrete Federation (ACF), Fellow of Canadian Engineering of Academy, Chair Professor of Hunan University, founding Editor-in-Chief of <Journal of Sustainable Cement-based Materials> and editorial board member of CCR, CCR, CBM, JBE, etc. His research interests include characterization and utilization of industrial by-products and waste materials, carbon mineralization for cement and concrete, and design and production of low-carbon cement and concrete materials. He has been granted about 50 Chinese patents and 4 US patents, and several of which have been used in large construction projects or product manufacture. He has authored/co-authored more than 680 technical papers. His Google scholar citation is over 58,300 and H-index of 125 (by March 26, 2025). He ranks No. 1 for year 2024 and No.2 for career (1969-2024) in Building and Construction Sector worldwide based on Stanford University's ranking. He was elected as a fellow of International Energy Foundation in 2001, American Concrete Institute in 2007, RILEM in 2016, Hongkong Concrete Institute in 2022, and ACF in 2023.

Prof. Yan Zhuge

University of South Australia, Australia

Dr. Yan Zhuge is a Professor of Structural Engineering and serves as the Professorial Lead (Associate Dean) in Research Education at the University of South Australia (UniSA). She has a BEng (Hons) in Civil Engineering and a Masters in Structural Engineering from Beijing, China, a PhD in Structural Engineering from Queensland University of Technology (QUT), Australia. Her primary research focuses on green concrete materials, fibre composite materials and structures. Yan has published 270+ SCI papers in the referred international journals and has been invited as a Plenary/keynote speaker at many international conferences. Her contributions have garnered several Australian government awards and fellowships and attracted funding from the Australian Research Council (ARC) as well as industry partnerships. Yan has held the position of a member in the ARC College of Experts 2019-2025 and was the winner of 2018 South Australia Winnovation award in Engineering category. Yan is an elected fellow of Australian Academy of Technology and Engineering (ASTE).

Prof. Maruyama Ippei

University of Tokyo, Japan

Dr. Ippei Maruyama is a Professor at the Graduate School of Engineering at The University of Tokyo. And he is a visiting professor at Nagoya University and Tohoku University. He is the chair of the International Committee on Irradiated Concrete, the editor-in-chief of the Journal of Advanced Concrete Technology, and an associate editor of Materials and Structures. He is leading or contributing to several national projects relating to the aging management of concrete structures in nuclear power plants, the Fukushima Daiichi decommissioning process, calcium carbonate circulation system for construction, and the standardization of quantification methods for mineralized CO2 using cementitious materials.His current research topics include building material engineering, design of concrete structures, aging management of concrete structures, preservation of historical buildings, radiation physics and chemistry for concrete, cement chemistry, and applied geochemistry.He won Architectural institute of Japan Prize (Research Paper Division), the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology Award for Young Scientists, JCI awards (11 times), CAJ awards (4 times), and Cement and Concrete Research “Le Châtelier Distinguished Paper Award 2021”.

Prof. Kang Hai Tan

Nanyang Technological University, Singapore

Prof. Kang Hai Tan is the Director of the Protective Technology Research Centre (PTRC) at Nanyang Technological University, Singapore. He received his Bachelor's and PhD degrees from the University of Manchester. He serves on the Editorial Board for Cement and Concrete Composites. He has published about 340 top-tier SCI journal papers with about 16,700 citations and H-index of 71 and is consistently ranked among Stanford University's World's Top 2% Scientists (by Career). His research encompasses both structural resilience against blast and fire effects and innovative construction materials that are fire-resistant. He served as conference chair at numerous international conferences, including PROTECT, Structures-in-Fire, ASFE, and PSH series. His research expertise has been widely recognized through numerous awards, including the prestigious Public Administration Medal (Bronze) from the President of Singapore in 2020, multiple Best Paper Awards from leading international conferences, and certificates of Highly Cited Research from Engineering Structures journal. He is Chair of Appeal Advisory Board for Infrastructure Protection Act. He serves as Home Team Excellence independent external expert for Assessment of Competency Development in Blast Engineering. He is also member of Technical Committee (Building Structure & Sub-structure) 17th Standards Council Term in Singapore.

Prof. Wenhui Duan

Monash University, Australia

Professor Wenhui Duan is a researcher in material science and engineering mechanics, holding a B.Eng. (1997) and M.Eng. (2002) from Tianjin University, China, and a Ph.D. (2006) from the National University of Singapore. He conducted interdisciplinary research on nanocomposites and nanomechanics at Monash University. By adding advanced nanomaterials such as carbon nanotubes and graphene oxide into conventional engineering materials such as epoxy, Portland cement, and geopolymer. Professor Duan has developed novel nanocomposites with high mechanical performances and reduced environmental impact. Prof. Duan founded the ARC Nanocomm Hub (2017–2024), fostering collaboration among 13 Australian universities, 7 international institutions, and 50 industry partners. In 2024, he established the ARC NetZero Hub to advance net-zero civil infrastructure using digital technologies and robotics. As an ARC Laureate Fellow (2025–), he focuses on low-carbon cement innovations. Elected a Fellow of the Australian Academy of Technological Sciences and Engineering (ATSE) in 2021, He continues to shape sustainable construction globally.

Prof. Shashank Bishnoi

Indian Institute of Technology Delhi and Vice provost of IIT Delhi Abu Dhabi, India

Dr. Shashank Bishnoi is a Professor at the Civil Engineering Department, Indian Institute of Technology Delhi and Vice Provost of IIT Delhi Abu Dhabi. His areas of interest include cement chemistry, sustainability in construction, durability, repair, retrofitting and strengthening of structures. He got his Ph.D. from EPFL, Switzerland in the area of modelling of cement hydration. He did his Masters from the University of Tokyo and Bachelors in Civil Engineering from IIT Kanpur. He worked as a post-doctoral fellow at EPFL, Switzerland and Laval University, Canada before joining IIT Delhi. He has over 80 journal and 160 conference publications, in the area of cement and concrete technology. He has worked on over 380 industry and government sponsored research and consulting projects. He has served as expert in various capacities to the Supreme Court of India, High Court and other courts of Delhi, Rashtrapati Bhawan, Delhi Police and other Government organisations. He has worked on industry sponsored research projects from companies in India and abroad, including Chryso, Holcim, Lafarge, JK Lakshmi, etc. He is the India lead on the development of Limestone Calcined Clay Cement (LC3) and was also responsible for the preparation of the draft standard for LC3 which was accepted as IC18189 by Bureau of Indian Standards (BIS). He is chairperson of CED 06 sectional committee of BIS and the leader of Indian delegation to ISO TC327 and ISO TC328. He was a founding steering committee member of Global Cement and Concrete Research Network (Innovandi) of the Global Cement and Concrete Association (GCCA). He is a member of the Editorial Board of Cement and Concrete Research journal and an Associate Editor of RILEM Technical Letters journal. He is the Scientific Chairperson of International Congress on the Chemistry of cement 2027.

Prof. Juhyuk Moon

Seoul National University, Korea

Prof. Juhyuk Moon is a tenured Full professor in the Department of Civil and Environmental Engineering at Seoul National University. His research focuses on the multi-scale characterization of cementitious materials, the development of low-carbon and carbon-neutral construction materials, and the establishment of sustainability standards for the cement and concrete industry. Professor Moon has published more than 160 SCI-indexed papers and 170 conference papers in leading international journals and conferences in the field of construction and materials science. In recognition of his outstanding contributions to sustainable materials research, he became the first Korean recipient of the Hong Kong RISUD Fellowship in 2024, and was also awarded the Korea Cement Association Presidential Award for his pioneering work in developing decarbonization technologies for the cement industry.

Prof. Dongmin Wang

China University of Mining and Technology (Beijing), China

Dr. Dongmin Wang is a professor at the School of Chemistry and Environmental Engineering, China University of Mining and Technology (Beijing), and the director of the Institute of Concrete and Environmental Materials. He is a top 2% global scientist at Stanford University, and the chief scientist of the National Key Research and Development Program project "Key Technologies for High-Solid-Waste, Low-Carbon, and High-Durability Concrete for Coastal Engineering Structures and Its Application." He also serves as the executive director of the Chinese Silicate Society, chairman of the Solid Waste and Ecological Materials Branch of the Chinese Silicate Society, the vice president of the Chinese branch of the International Federation for Research and Experimentation in Materials and Structures (RILEM). In 2025, he found the journal of Material Report: Solid Waste. & Eco-materials and serves as editor-in-chief. He has long been committed to the research and application of resource utilization of industrial, mining, and municipal solid waste and low-carbon cement concrete materials. He firstly presented the concept of "solid waste and ecological materials," He has presided over more than ten related key R&D projects of the Ministry of Science and Technology, general projects of the National Natural Science Foundation of China, regional joint projects of the National Natural Science Foundation of China, and dozens of joint R&D projects of the industry. He has published more than 400 papers in journals such as Journal of Ceramic Society, Cement and Concrete Composites, and Construction and Building Materials, and has been granted 58 national invention patents, published 14 academic monographs, and received 15 provincial and ministerial-level awards. His work has been widely applied in production and Engineering.

Prof. Qingliang Yu

Eindhoven University of Technology and Wuhan University, The Netherlands /China

Prof. Qingliang Yu works in the Department of the Built Environment at Eindhoven University of Technology (The Netherlands) and is also affiliated with Wuhan University (P.R. China). His research interests primarily concern cement-bound materials, from materials to structural behaviour understanding, covering micro-, meso- and macro-level. His current research focuses on functionality of concrete materials concerning safety related matters (fire safety, impact resistance) and energy related matters (thermal comfort, energy conservation). His research has been funded by, among other organisations, NWO, EU and NSFC. He has authored 4 book chapters, 200 scientific journal papers and about 100 international conference papers. He serves as Editor-in-Chief of Journal of Building Engineering, editorial board member of Construction and Building Materials, Journal of Sustainable Cement-Based Materials, Scientific Reports.

Prof. Yuxi Zhao

Qiushi Distinguished Professor, Zhejiang university, China

Prof. Yuxi Zhao is a Qiushi Distinguished Professor at Zhejiang University, China. She also leads the Structural Engineering Institute at Zhejiang University. Her research focuses on the durability of concrete structures and recycled concrete structures. Professor Zhao has received over 20 research grants from the Chinese government and has published more than 200 papers in peer-reviewed journals and conference proceedings. She has co-authored 4 books and co-edited 3 conference proceedings. Currently, she serves as the director of Asian Concrete Federation (ACF) Technical Board and the chairperson of the Technical Committee on Durability of Concrete Structures of ACF. She is also a member of two technical committees within RILEM. Additionally, she acts as an associate editor for the Elsevier journals Case Studies in Construction Materials, Cleaner Materials and ACF journal. Professor Zhao has consistently been acknowledged as one of the most cited Chinese researchers by Elsevier and ranked among the top 2% of scientists in Civil Engineering by Stanford University since 2021.

Prof. U. Johnson Alengaram

University of Malaya, Malaysia

Professor U. Johnson Alengaram is the Director of the Centre for Innovative Construction Technology, a Research Centre under the Faculty of Engineering, University of Malaya, Kuala Lumpur, Malaysia. He is listed among the top 2% world's scientists by Stanford University through the Elsevier Data Repository. He is a Chartered Civil Engineer of the world-renowned Institution of Civil Engineers (ICE, UK) and the Engineering Council (UK); he is a qualified Professional Engineer with the Board of Engineers Malaysia. He is a Companion member of the Institution of Engineers Malaysia and a life member of the Concrete Society of Malaysia. His research involves low-carbon footprint materials through the utilization of industrial by-products and waste materials in concrete, low-carbon cementitious materials, one-part geopolymer cement, geopolymer concrete, limestone calcinated clay cement (LC3), crack-healing mortar using microalgae lightweight aggregate, foamed concrete, and impact & blast-resistant concrete. His current Web of Science (WoS) h-index stands at 56, Scopus h-index of 60, and Google Scholar h-index of 69, with the publication of over 200 articles in refereed journals in Web of Science and Scopus-indexed journals. He serves as the Associate Editor of the Journal of Cement-Based Sustainable Materials, the Australian Journal of Civil Engineering and the Editorial Board of the Journal of Construction Materials, Frontiers in Built Environment, and the Jordanian Journal of Civil Engineering. His research team has won multiple gold and silver awards at national and international exhibitions.

Dr. Hongjian Du

National University of Singapore, Singapore

Dr Du Hongjian is a Senior Lecturer at the Department of Civil and Environmental Engineering, National University of Singapore. He is the Director of Centre for Construction 3D Printing Research. A recognized expert in concrete materials and structures, his work focuses on low-carbon construction materials and 3D concrete printing for sustainable urban development. His research has resulted in real-world applications that transform local waste into value-added concrete solutions for structural use. He holds several inventions and patents related to green cement and low-carbon building materials. He received the Outstanding Paper Award from RILEM Journal of Materials and Structures in 2022, and earned the Excellence Award from the Singapore Concrete Institute in 2024 and 2022. He is also the co-founder of CIRCRETE, a deep-tech startup aimed at decarbonising the built environment.

5th ACF Symposium Program

Saturday, November 15, 2025	Venue: Auditorium
Opening Ceremony **Chair:**	
08:15-09:00	**Registration**
09:00-09:20	**Welcome Address** **Caijun Shi,** President of Asian Concrete Federation, Hunan University **Sze Dai Pang,** National University of Singapore
Keynote Presentations **Chair: Jianguo Dai, Keishiro Iriya**	
09:20-10:00	**Tamon Ueda** 20 years of history and background of Asian Concrete Federation (I) **Caijun Shi** 20 years of history and background of Asian Concrete Federation (II)
10:00-10:10	**Photo–Taking**
10:10-10:40	**Coffee/Tea Break**
Keynote Presentations **Chair: Kohei Nagai, Qiang Wang**	
10:40-11:05	**Maruyama Ippei** Role of environmental and material factors in carbonation of cementitious materials
11:05-11:30	**Juhyuk Moon** Importance of grinding technologies for transforming non-SCM to SCM
11:30-11:55	**Wenhui Duan** Carbonation kinetics in cementitious materials with amino acid additives
11:55-12:20	**Shashank Bishnoi** Durability of LC3 concrete
12:20-13:30	**Lunch**
13:30-17:20	**Parallel Sessions**
18:00-21:00	**Conference Banquet**

Saturday, November 15, 2025	Venue: Auditorium
Parallel Session A1: Fellow/Award Recipient Lecture **Chair: U. Johnson Alengaram, P. L. Ng**	
13:30-13:55	**Cheolwoo Park** The performance of SIFRCC (slurry infiltrated fiber reinforced cementitious composite) under impact and explosion
13:55-14:20	**Vyacheslav R. Falikman** Sustainable development in construction: Challenges and tasks
14:20-14:45	**Yin-wen Chan** Development of limestone cement concrete and Taiwan's carbon reduction strategy
14:45-15:10	**Somnuk Tangtemsirikul** Development of 3D-Printing technology and application to construction in Thailand
15:10-15:40	**Coffee/Tea Break**
Parallel Session A2: Fellow/Award Recipient Lecture **Chair: Dongmin Wang, Qingliang Yu**	
15:40-16:05	**Jianguo Dai** Geopolymer technology turning municipal solid waste incineration ash into artificial aggregates
16:05-16:30	**Takeru Kanazawa** A probabilistic path to generalized modeling across pull-out mechanisms in fiber-reinforced concrete

Saturday, November 15, 2025	Venue: Sesame
Parallel Session B1: TC-GC (Geopolymer Concrete) **Chair: Guoqing Geng, Shengnan Sha**	
13:30-13:50	**Sangbum Jeon, Nabodyuti Das, En-Hua Yang (Invited speech)** From cement to geopolymers: progress and prospects of thermoelectric energy harvesting composites
13:50-14:10	**Akash Paradkar, Astha Sharma, Sandeep Chaudhary (Invited speech)** Valorization of dimensional stone waste in geopolymer mortars for the circular economy in construction
14:10-14:25	**Jie Ren** Understanding the effects of hematite and brucite additions on fresh- and hardened-state properties of metakaolin-based geopolymer binders
14:25-14:40	**Ziyang Li, Shunzhi Qian** Mechano-chemical activation of marine clay for sustainable one-part geopolymers
14:40-14:55	**Shiliang Chu, Qianyi Yan, Qiaoqiao Su** Green in-situ thermally crosslinked solid waste-based geopolymer membranes: scalable fabrication and dual potential in adsorption-photothermal evaporation research
14:55-15:10	**Ruiquan Jia, Yanxin Chen** Regulating the workability of NaOH-activated blast furnace slag pastes by considering the mutual inhibition between calcium-sodium aluminosilicate hydrate and hydrotalcite during precipitation
15:10-15:40	**Coffee/Tea Break**
Parallel Session B2: TC-GC (Geopolymer Concrete) **Chair: En-Hua Yang, Jie Ren**	
15:40-16:00	**Ziyang Li, Sivaananthan Sankeeth, Nabodyuti Das, Shunzhi Qian (Invited speech)** Effect of Calcium on MK-GGBS Strain-Hardening Geopolymer Composites (SHGC)
16:00-16:20	**Shengnan Sha, Yuliang Wang, Hailong Ye (Invited speech)** Controlling rheology and hydration of high-strength alkali-activated slag via optimized PCE and activator chemistry
16:20-16:35	**Keh Chew** KrunerBinder – Empowering Net-zero & Sustainable Construction
16:35-16:50	**Tolga Tamer, Cagla Meral Akgul** Nano-enhanced PCM–geopolymer composites for energy-efficient building applications
16:50-17:05	**Abba Musa Hassan, N Muhamad Bunnori, S. Ramesh, Chou Yong Tan, Kim Hung Mo** Engineered self-foaming glass ceramics from waste glass and aluminium dross for energy absorption
17:05-17:20	**Chikako Kamei, Daishin Hanaoka** Study of the effects on steel corrosion in fly ash-based geopolymers

Saturday, November 15, 2025	Venue: Saffron
Parallel Session C1: Carbon mineralization **Chair: Tetsushi Kanda, Su Wang**	
13:30-13:50	**Jun Chang (Invited speech)** Development of highly reactive SCMs via carbonated ternesite: Towards high cement performance and CO2 sequestration
13:50-14:10	**Xujia You, Xiang Hu, Caijun Shi (Invited speech)** Experimental and thermodynamic study of the magnesium-based aragonite inducers in carbon mineralization of Portland cement
14:10-14:25	**Chao Qun Lye** Carbonated fine RCA: Limits, mitigation strategies and field implications
14:25-14:40	**Yue Wang, Hongjian Du** Turning CO_2 capture by-products into green cement: A pathway to decarbonized concrete
14:40-14:55	**Hui Liu, Dajiang Zhang, Jianfeng Wang, Xiao Liu, Yali Wang, Suping Cui** Synergism of cement hydration and carbonation in the presence of CO2 absorbed alkanolamine
14:55-15:10	**T. Iyoda, E. Ishikawa** Development of TSC structures using materials that absorbed and reduced CO2
15:10-15:40	**Coffee/Tea Break**
Parallel Session C2: Carbon mineralization **Chair: Jun Chang, Xiang Hu**	
15:40-16:00	**Tetsushi Kanda, Goro Sakai, Tsuyoshi Torichigai, Kosuke Ishizeki (Invited speech)** Toward carbon-negative concrete: Strategies and applications of CO_2-SUICOM
16:00-16:20	**Su Wang (Invited speech)** Application of CO2 mineralized concrete to reduce embodied carbon for a sustainable built environment in Singapore
16:20-16:35	**Tiefeng Chen, China** Uniform carbonation curing of cement-based materials by using potassium glycine solution
16:35-16:50	**Zhiqiang Xiao, Zhenyu Zhang, Kang Hai Tan** Use of pyrolytic carbon particle as green additives in cement-based composites with CO_2 curing
16:50-17:05	**Ming-Shan Zhao** Aqueous CO2 sequestration and activation system for Low-Carbon ready-mix concrete production
17:05-17:20	

Saturday, November 15, 2025	Venue: Coriander
Parallel Session D1: TC-SCM (Supplementary cementitious materials) **Chair: Michael Henry, Jingjing Feng**	
13:30-13:50	**Xiaojian Gao, Junran Liu (Invited speech)** Enhancing chloride ion binding and mechanical properties of cement-based materials by modified layered double hydroxides
13:50-14:10	**Tingting Zhang, Jingbin Zhang (Invited speech)** Influence of MgO chemical activity on the drying shrinkage of the MgO-SiO2-H2O system
14:10-14:25	**Y. Takeiri, T. Iyoda** Effect of combining ground granulated blast furnace slag cement with a hardening accelerator on initial strength
14:25-14:40	**Linan Gu, Jingjing Feng, Jing Qiao, Chunsheng Zhou, Yanliang Ji** Water migration behavior of fresh paste with limestone powder
14:40-14:55	**Dajiang Zhang, Jianfeng Wang, Hui Liu, Yali Wang, Suping Cui** The influence of metakaolin on the physical-mechanical properties and microstructure development of natural hydraulic lime
14:55-15:10	**Shiyu Zhuang, Qiang Wang** Application of steel slag in concrete
15:10-15:40	**Coffee/Tea Break**
Parallel Session D2: TC-SCM (Supplementary cementitious materials) **Chair: Xiaojian Gao, Tingting Zhang**	
15:40-16:00	**Michael Henry (Invited speech)** Statistical optimization of concrete material sustainability based on contribution to the SDGs
16:00-16:20	**Jingjing Feng, Jianwei Sun, Kai Wang, Linan Gu, Yanan Wang (Invited speech)** Study on the activation of converter steel slag activity
16:20-16:35	**Qiang Liu, Jianming Gao, Yasong Zhao, Yunsheng Zhang, Cheng Liu** Investigation on the interaction behaviour of cement and SCMs containing heavy metals
16:35-16:50	**Nengfu Tao** From wood waste to green building materials: Cementitious composites and engineered panels
16:50-17:05	**Gao Yu, Guoqing Geng** Characterization of environmental and material properties of municipal solid waste incineration fly ash and its utilization in cementitious materials
17:05-17:20	**Baixing Song, Sze Dai Pang** Valorization of local waste marine clay as supplementary cementitious materials

Saturday, November 15, 2025	Venue: Lavender
Parallel Session E1: Test methods, algorithm, and lifecycle assessment **Chair: Hyeon-Jin Kim, Yosuke Ito**	
13:30-13:50	**Zhu Liu (Invited speech)** ACI overview and update of ACI codes and standards
13:50-14:10	**Tomoko FUKUYAMA, Yuma KAWASAKI (invited speech)** Clarifying the origins of voltage fluctuations in cementitious materials for non-destructive structural health monitoring
14:10-14:25	**Minseong Kim, Hyeon Jong Hwang** Relationship between residual displacement and damage index (DI) of columns subjected to cyclic loading
14:25-14:40	**Dong-jin Shin, Su-Min Kang, Sung-hyun Kim** Cyclic loading test on in-plane shear resistance of existing and extension slab interfaces with concrete circular shear keys
14:40-14:55	**Daiki Tanaka, Yosuke Ito, Shinji Kawabe, Junpei Yamamoto** Rebound-based diagnosis of tile detachment near the boundary in the external tile finishing wall
14:55-15:10	**Min-Jeong Cho, Hyeon-Jong Hwang** Reinforcement learning based optimal design for 2D frame sections
15:10-15:40	**Coffee/Tea Break**
Parallel Session E2: Test methods, algorithm, and lifecycle assessment **Chair: Zhu Liu, Hyeon-Jong Hwang**	
15:40-16:00	**Hyeon-Jin Kim, Hong-Gun Park (Invited speech)** Cyclic loading tests of PC beam–column joints for high-rise residential building frames
16:00-16:20	**Yosuke Ito, Daiki Tanaka, Shinji Kawabe (Invited speech)** Tile detachment detection in the external tile finishing wall using a spatula mounted on a wall-contact type UAV
16:20-16:35	**Makoto Iwasaki, Nicharin Nithimethaporn, Katsufumi Hashimoto, Takafumi Sugiyama, Riko Iinuma, Hiroyuki Mitsuya, Hisayuki Ashizawa, Masahiro Morita, Takuma Ishiguro** Influence of sacrificial anode metal sheets geometry on corrosion detection and energy harvesting performance in MEMS-based energy harvesting devices
16:35-16:50	**Keigo MATSUO** Fundamental experiment on evaluation of sound absorption coefficient of porous concrete
16:50-17:05	**Serrin Kim, Jang-Woon Baek, Sanghee Kim** Prediction of structural response of reinforced concrete columns using Physics-Informed Neural Networks
17:05-17:20	**Keisuke Nitta, Katsufumi Hashimoto, Takafumi Sugiyama** Evaluation of internal crack closure in bacteria-based self-healing concrete using sonic-IR imaging

Saturday, November 15, 2025	Venue: Lemongrass
Parallel Session F1: UHPC and fiber reinforced composites **Chair: Geonho Hong, Yi Wang**	
13:30-13:50	**Dong Zhang, Jitai Zhou (Invited speech)** High Temperature performance of lightweight ultra-high performance concrete
13:50-14:10	**Yiming Yao, Gan Wu, Hongrui Zhang, Jingquan Wang (Invited speeh)** Tensile and flexural performances of pre-cracked UHPC under the coupled actions of sustained loading and corrosive media
14:10-14:25	**Jinlong Gu, Tianyu Li, Rujiu Zhang, Yu Rao, Yangtao Li, Sheng Liu, Fangying Shi, Xiamin Hu, Liu Xiaoyan, Surendra P.Shah** Experimental study on damage evolution and failure modes of seawater sea-sand ultra-high-performance concrete under uniaxial compression
14:25-14:40	**Yao Luan, Faizudin Hafiz Zadah** Experimental study on uniaxial tensile stress relaxation of strain-hardening cementitious composites with different stress levels
14:40-14:55	**Hongcun Guo, Hu Fang, Yao Yao** An elastoplastic damage constitutive model of ultra-high performance concrete under high temperature
14:55-15:10	**Jia Li, Zhengchen Wang, Zhengju Wang, Yi Wang** Development of ultra-high performance geopolymer concrete with machine learning models
15:10-15:40	**Coffee/Tea Break**
Parallel Session F2: UHPC and fiber reinforced composites **Chair: Dong Zhang, Yiming Yao**	
15:40-16:00	**Geonho Hong (Invited speech)** Effect of steel fiber shape on the performance improvement of steel fiber reinforced concrete
16:00-16:20	**Yi Wang, Chen Li, Xinyu Xu, Ying Peng, Chaoyang Zhou, Tamon Ueda (Invited speech)** Mechanical response of TRUHPC plate subjected to chloride attack
16:20-16:35	**Junping Liu, Lianghui Chen** Preparation of core UHPC based on the requirements of concrete-filled steel tube arch ribs
16:35-16:50	**Faisal Mukhtar, Mohammed E. Shehadah, C. Armando Duarte** Vulnerability assessment of FRP-strengthened RC structures under blast loading: Applied element modeling
16:50-17:05	**Rui Luo** Multiscale modeling of UHPFRC: From meso-scale mechanisms to structural performance
17:05-17:20	**Yan Yang, Jing Gao** Seismic response and numerical simulation of concrete-filled steel tubular composite column with UHPC plates

Saturday, November 15, 2025	Venue: Sage
Parallel Session G1: Graduate Forum **Chair: Tamon Ueda, Yanshuai Wang**	
13:30-13:45	**Yue Wang, Biqin Dong, Yanshuai Wang** Value-added recycling strategies for decommissioned wind turbine blades
13:45-14:00	**Hao Zhang, Hongjian Du** Characterization on fresh properties of underwater 3D concrete printing at varying water depths
14:00-14:15	**Haitao Chen, Liping Guo, Xiangpeng Fei, Yingjie Chu, Haoran Shen** Micromechanical insights into high-ductility geopolymer composites incorporating red mud (RM): Role of in situ spherical RM-balls at the fiber-matrix interface
14:15-14:30	**Mengxin Bu, Biqin Dong, Yanshuai Wang** Dissolution behaviors and mechanisms of metakaolin in acidic activators
14:30-14:45	**Hyun-Il Eom, Sung-Hyun Kim, Su-Min Kang** Evaluation of seismic performance of RC columns damaged after earthquakes
14:45-15:00	**Yi Liu, Qiang Yuan** Design and validation of a concrete mechanical performance and durability prediction framework based on multi-task learning
15:00-15:15	**Xinchun Guan, Heqing Gou** A freeze-thaw damage model for partially saturated concrete considering air-water migration: Analysis of surface degradation
15:10-15:40	**Coffee/Tea Break**
Parallel Session G2: Graduate Forum **Chair: Donguk Choi, Jiehui Wang**	
15:40-15:55	**Keita Tateishi, Kohei Nagai** Estimation of internal corrosion in RC members from real surface images using 3D-RBSM and machine learning
15:55-16:10	**Yiming Ma, Huy Tang Bui, Kang Hai Tan** Thermal Imaging of Subsurface Defects in Shotcrete for Underground Caverns
16:10-16:25	**Jung-Min Kim, Jang-Woon Baek** 3D point cloud-based construction error assessment of modular building components using artificial neural networks
16:25-16:40	**Qiang You, Guoqing Geng** Steel passivation in LC3 pore solution influenced by AFm deposition
16:40-16:55	**Hwa-Eun Lee, Jang-Woon Baek, Hyeon-Jong Hwang** Prediction of anchorage performance of headed bars using machine learning algorithms and multilayer perceptron
16:55-17:10	**Zhihua Liu, Jianhui Liu, Caijun Shi** The water absorption and desorption characteristics of SAP@CA and its effect on the internal curing performance of UHPC

Sunday, November 16, 2025	Venue: Sesame

Parallel Session B3: TC-3DP (3D printing concrete) **Chair: Shunzhi Qian, Huawei Liu**	
8:45-9:05	**J.J. Chen, P.L. Ng, S.H. Chu (Invited speech)** Utilisation of superfine zeolite to develop 3d printable cementitious composite
9:05-9:25	**Zhiwei Chen (Invited speech)** Influence of gypsum and calcium oxide on shrinkage and strength properties of low-carbon 3D printing
9:25-9:40	**Kazuma Shimizu, Kenichiro Nakarai, Hiroharu Kamada** Effect of curing conditions on durability of 3D printed concrete
9:40-09:55	**Ren Uematsu, Tomoko Fukuyama, Hiroharu Kamada** Experimental study on the influence of interfacial failure on the compressive stress-strain behavior of 3D-printed mortar laminates for construction applications
09:55-10:10	**Yangyunzhi Gao, Haowei Fu, Hongjian Du** Structural optimization of the non-prismatic 3D-printed concrete beams based on the NSM-based steel reinforcing method
10:10-10:25	**Zifan Geng** A novel 3D printing scheme for lunar construction with extremely low binder utilization
10:25-10:50	**Coffee/Tea Break**
Parallel Session B4: TC-3DP (3D printing concrete) **Chair: P.L. Ng, Zhiyu Luo**	
10:50-11:10	**Huawei Liu, Ng Jun Liang Ben, Meilin Dai, Aung Zaw That, Siqi Li, Hongjian Du (Invited speech)** Full-scale reinforced 3D printed concrete wall structures: From experimental verification to engineering practice
11:10-11:30	**Meiling Dai (Invited speech)** Numerical study on the compression and bending performance of 3D printed concrete walls
11:30-11:45	**Mingyang Li, Daniel Tay Yi Wei, Wong Teck Neng, Tan Ming Jen** Effect of process parameters on the filament quality in 3D concrete printing
11:45-12:00	**Boyang Tang** Influence of printed layer thickness and printing time interval on the mechanical properties of extrusion-based 3D-printed concrete
12:00-12:15	**Ng Jun Liang Ben, Aung Zaw That, Hongjian Du** Novel connection method using omega loops for 3DPC PPVC walls
12:15-12:30	**Ng Jun Liang, Siqi Li, Hongjian Du** Axial compression test of full-scale 3D-printed reinforced concrete walls

Sunday, November 16, 2025	Venue: Saffron
Parallel Session C3: Sustainable concrete materials **Chair: Yali Wang, Tongsheng Zhang**	
8:45-9:05	**Jinping Lu (Invited speech)** Application of granite fines to substitute sand in concrete production
9:05-9:25	**Ana T Lima, Wolfgang Kunther (Invited speech)** Mapping circular economy practices of cement–a review for climate mitigation modeling
9:25-9:40	**GAN Cheng Chian, LIM Hock Sim, HENG Fok Hun, TAN Soon Hau, Yuto TANAKADATE** Development of a Low-carbon (low-cement content) Fibre Concrete for Underground Infrastructures in Singapore
9:40-09:55	**Jin Yi, Lei Wang, Dexiang Zhu, Jiwang Zhang** Internal curing mechanism of recycled brick-concrete fine aggregate and its impact on the engineering performance of mortar
09:55-10:10	**Tim Tan** Advancing Sustainable Solution from Biomass to Kenafcrete
10:10-10:25	**Tao Liu, A.T. Lima** Recycling wind turbine blade waste for enhanced cementitious materials: a review of properties and applications
10:25-10:50	**Coffee/Tea Break**
Parallel Session C4: Carbon reduction strategies **Chair: Suping Cui, Ana T Lima**	
10:50-11:10	**Yali Wang, Suping Cui, Wanyou Meng, Dawei Sun (Invited speech)** Mechanism and effect of carbonation on the hydration of silicate cement during mixing
11:10-11:30	**Tongsheng Zhang, Xuhui Wang, Peijia Zhang, Rongfu Zhang, Jiangxiong Wei, Qijun Yu (Invited speech)** Green and low-carbon production technology of precast concrete elements through optimization design of steam curing system, concrete mixture proportion and steam curing regime
11:30-11:45	**Bin Zhang** Gradient designed carbon fiber cement with absorption-dominant electromagnetic interference shielding
11:45-12:00	**Chang Qingyang** Implementation of in situ concrete strength monitoring solutions to enhance productivity and sustainability
12:00-12:15	**Chng Ian** Future of the concrete industry – updates on how we are doing
12:15-12:30	**Wong Sork Fun** Use of recycled urban wastes in the built environment

Sunday, November 16, 2025	Venue: Coriander
Parallel Session D3: TC-SCM (Supplementary cementitious materials) **Chair: Yushi Liu, Chaoyang Zhang**	
8:45-9:05	**Tangwei Mi, Cise Unluer, En-Hua Yang (Invited speech)** Challenges in the practical application of reactive magnesia cement (RMC)
9:05-9:25	**Yanshuai Wang, China (Invited speech)** Synthesis and Performance of Carbonaluminate Cementitious Material
9:25-9:40	**Jiang Shan** Sustainable Sewage Infrastructure: The Role of Calcium Aluminate Concrete Pipes
9:40-09:55	**Zengqi Zhang, Xiaoming Liu** Preparation of high reactivity SCMs by synergistic utilization of alkaline, silicon-aluminum and sulfate solid wastes
09:55-10:10	**Zhiyu Luo, Hongjian Du** Valorization of low-value battery waste as construction materials: hydration mechanism and potential applications
10:10-10:25	**Zhenyu Zhang, Dong Zhang, Kang Hai Tan** Exploring Glassy Slag from Co-Gasification of Municipal Solid Waste and Sewage Sludge as a Sustainable Supplementary Cementitious Material
10:25-10:50	**Coffee/Tea Break**
Parallel Session D4: TC-SCM (Supplementary cementitious materials) **Chair: Tangwei Mi, Zengqi Zhang**	
10:50-11:10	**Chaoyang Zhang, Caijun Shi (Invited speech)** Influences of polymer nanoparticles on the cement hydration, time-dependent rheology and capillary water absorption behaviours of cement-based materials
11:10-11:30	**Yushi Liu (Invited speech)** Thermo-mechanical behavior of nano-engineered PCM-cement composites: Design and performance
11:30-11:45	**Kevin Jia Le Lee, Kang Hai Tan** Hybridising recycled polypropylene and natural kenaf fibres for explosive spalling prevention in ultra-high performance concrete
11:45-12:00	**Shengjie Yan** Data-driven rheological models for the flowing 3D printed concrete materials
12:00-12:15	**Siyuan Shu** Permeability characteristics and damage constitutive model of CA-UHPC in deep frozen shaft linings under stress-seepage coupling
12:15-12:30	**Mohammadreza Vafaei, Sophia C Alih, Abdirahman Abdulkadir** Predicting seismic-induced damage via limited strain gauges and neural networks

Sunday, November 16, 2025	Venue: Lavender
Parallel Session E3: Test methods, algorithm, and lifecycle assessment **Chair: Zhong Hua, Yutong Li**	
8:45-9:05	**Sung-hyun Kim, Su-Min Kang, Dong-jin Shin (Invited speech)** Evaluation of seismic performance of pilotis in existing low-rise residential buildings
9:05-9:25	**Tatsuya HIRAYAMA, Tomoko FUKUYAMA** Evaluation of stress-induced polarization behavior in CNT-cementitious composites under cyclic loading and moisture variation
9:25-9:40	**Jixiang Wang, Dongmin Wang, Rui Sun** Crystal carbonation mitigation agent in SSC: Mechanism and carbonation resistance
9:40-09:55	**Chae Eun Lee, Chul Goo Kim** Experimental and analytical study on shear strength of RC beams with low-strength concrete
09:55-10:10	**Min-Hee Kim, Chul-Goo Kim** Bond behavior of low-strength concrete: Experimental and numerical study based on pullout tests and finite element analysis
10:10-10:25	**Yeon-Ju Kim, Chul-Goo Kim** Structural performance evaluation of prefabricated composite columns with cold-formed bent steel angles using finite element analysis
10:25-12:50	**Coffee/Tea Break**
Parallel Session E4: Test methods, algorithm, and lifecycle assessment **Chair: Sung-hyun Kim, Chang-Soo Kim**	
10:50-11:10	**Zhong Hua (Invited Speech)** Smart Technologies for Concrete
11:10-11:30	**Yutong Li (Invited speech)** Acoustic-based automated evaluation of tile debonding on building facades
11:30-11:45	**Seon-Woo Baek, Ju-Hyung Kim, Chang-Soo Kim** Deriving shear strength prediction equation of RC beams using mechanics-informed machine learning
11:45-12:00	**Bozhong Lin, Shen Liu, Yao Yao** Mechanisms of interfacial bonding between fire-exposed mortar and functionalized carbon nanotubes mortar
12:00-12:15	**Vuong Nguyen-Van, Hongjian Du** Nature-inspired TPMS structures for coastal protection: From design concept to simulation and digital concrete fabrication
12:15-12:30	**Chencheng Zha, Chuanxi Rong, Hongjian Du** Multi-source monitoring-based structural safety evaluation of integrated transit hub

Sunday, November 16, 2025	Venue: Lemongrass
Parallel Session F3: Concrete Durability **Chair: Xinchuan Guan, Jianhui Liu**	
8:45-9:05	**Yue Liu, Yan Zhuge (Invited speech)** Innovative self-healing composites using steel slag and chitosan for sewage environments
9:05-9:25	**Zhenguo Shi (Invited speech)** Durability of limestone calcined clay cement blends
9:25-9:40	**Zhangmin Zhang, Guoqing Geng** Cl probes tailored for sensing chloride ingress in concrete
9:40-09:55	**Ami Ito, Kenichiro Nakarai, Yohei Masumura, Hideaki Karawasa, Yuji Tadokoro** Effect of high temperature curing on the relationship between air permeability coefficient and water absorption rate of expansive concrete
09:55-10:10	**Zihan Zhou, Qiang Wang, Shiyu Zhuang** Multi-scale analysis of degradation mechanisms in magnesium phosphate cement paste under wet-dry cycling
10:10-10:25	**Eizo Takeshita, Chunhe Li, Yasuhiro Nagashio** Evaluation of restraint method and seawater resistance of reinforced concrete with expansive additive
10:25-10:50	**Coffee/Tea Break**
Parallel Session F4: Concrete durability **Chair: Yue Liu, Zhenguo Shi**	
10:50-11:10	**Shuqing Zhang, Jianhui Liu, Leping Liu, Zheng Chen, Caijun Shi (Invited speech)** Effect of CO2 partial pressure and temperature on degradation kinetics of cement paste in CO2-rich water
11:10-11:30	**Dawei Sun, Cui Suping, Maoshuo Li, and Yali Wang (Invited speech)** Trigger efficiency investigation of microcapsules in cement-based materials
11:30-11:45	**M. Hirosugi, E. Ishikawa, T. Iyoda** A Study of carbonation progress in blast furnace high content concrete as influenced by differences between actual and accelerated environments
11:45-12:00	**Danyang Zhao, Cheuk Lun Chow, Denvid Lau** The application of alginate-based epoxy microcapsule in self-healing concrete
12:00-12:15	**Facheng Song** Microstructural deterioration and micromechanical properties of the dual-scale transition zone in concrete repair under marine conditions
12:15-12:30	**Yuxin Cai, Qiang Wang** Influence of segregation of fresh concrete on the late-age durability of reinforced concrete

Sunday, November 16, 2025	Venue: Sage
Parallel Session G3: Graduate Forum **Chair: Yan Zhuge, Hyeon-Jin Kim**	
8:45-9:05	**C. Kawatani, E. Ishikawa, Y. Takeiri, T. Iyoda** Effect of Difference in Carbonation Methods for Carbonated Recycle Fine Powder on Mortar Strength and Mass Transfer Resistance
9:05-9:25	**Tong Li, Huisu Chen** Thermodynamic analysis of phase evolution in Portland cement paste exposed to NaCl and MgCl2 solutions: Concentration-dependent behavior and SCMs mitigation mechanism
9:25-9:40	**Hengrui Jia, Jianhui Liu, Caijun Shi** Bionic anti-corrosion coating for FRP bars in marine concrete superior corrosion resistance, reliable interfacial bond, and reduced environmental footprint
9:40-09:55	**Zihui Zhan** Valorizing Singapore's waste sludge and marine clay for sustainable cement application: Thermal activation, hydration & strength development
09:55-10:10	**Kodai Ueda, Dawei Ren, Kohei Nagai** Observation and analysis of moisture transport at the interface between concrete and rebar
10:10-10:25	**Ng Jun Liang Ben, J Y Richard Liew, Hongjian Du** 3D concrete printing for modular building construction
10:25-10:50	**Coffee/Tea Break**
Parallel Session G4: Graduate Forum **Chair: Yuxi Zhao, Yosuke Ito**	
10:50-11:10	**Yifan Gong, Yamei Zhang, Wei Wang** Enhancement of recycled coarse aggregate concrete properties using a combined adjustable cement slurry coating and mixing approach
11:10-11:30	**Misaki HAYAKAWA, Keiya MINAKAWA, Reiji KANEKO, Taiki NAKADA, Tomoko FUKUYAMA, Takashi IKUNO** Visualization of moisture flow in cement paste by using electrical impedance tomography
11:30-11:45	**Yingjie Chu, Li-Ping Guo, Xiang-Peng Fei, Jia-Yi Li, Guo-Tai Zhao** Elevating key performance of ecological high ductility cementitious composites by coral: The role of exclusive microstructure
11:45-12:00	**Zheyuan Zhang** Embodied carbon optimization of structural systems: Bridging research to practice
12:00-12:15	**Jong-Min Lee, Hyeon-Jong Hwang** Measurement and prediction of construction load for post-tensioned slabs
12:15-12:30	

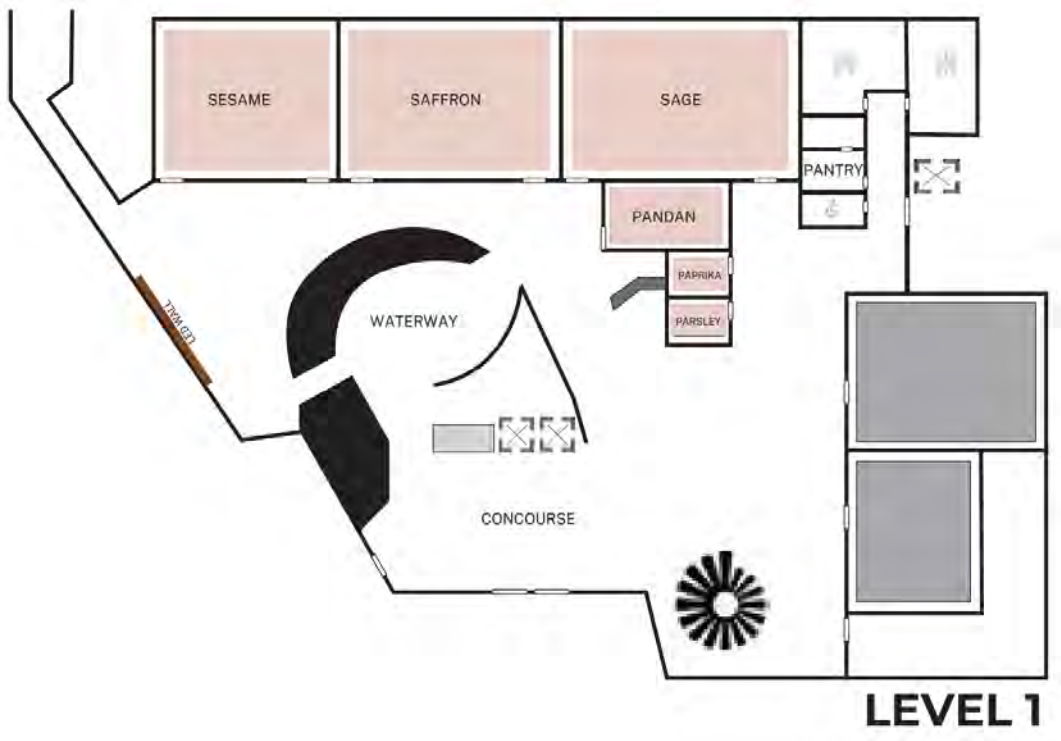
Sunday, November 16, 2025	Venue: Auditorium
12:30-13:30	**Lunch**
Keynote Presentations **Chair: Jinping Lu, Vyacheslav R. Falikman**	
13:30-13:55	**U. Johnson Alengaram** From futile to functional: enunciation of the construction of geopolymer concrete house in the University of Malaya Campus, Malaysia, for Bus Drivers
13:55-14:20	**Yan Zhuge** Utilization of drinking water treatment sludge to develop self-healing concrete
14:20-14:45	**Yuxi Zhao** Real-time segmentation of steel corrosion induced damage on concrete structures using deep learning
14:45-15:10	**Kang Hai Tan** Spalling-resistant UHPC using sustainable concrete materials with fibre
15:10-15:30	**Coffee/Tea Break**
Keynote Presentations **Chair: Yin-wen Chan, Cheolwoo Park**	
15:30-15:55	**Qingliang Yu** Amorphous calcium carbonate formation from carbonation of Ca rich materials: Insights on the cementitious properties
15:55-16:10	**Dongmin Wang** Hydration Mechanism and Microstructure of Silico-Aluminum Solid Waste-Based Cementitious Materials
16:10-16:35	**Hongjian Du** Advancing construction through 3D printing and materials innovation
16:35-16:45	**Closing Ceremony**

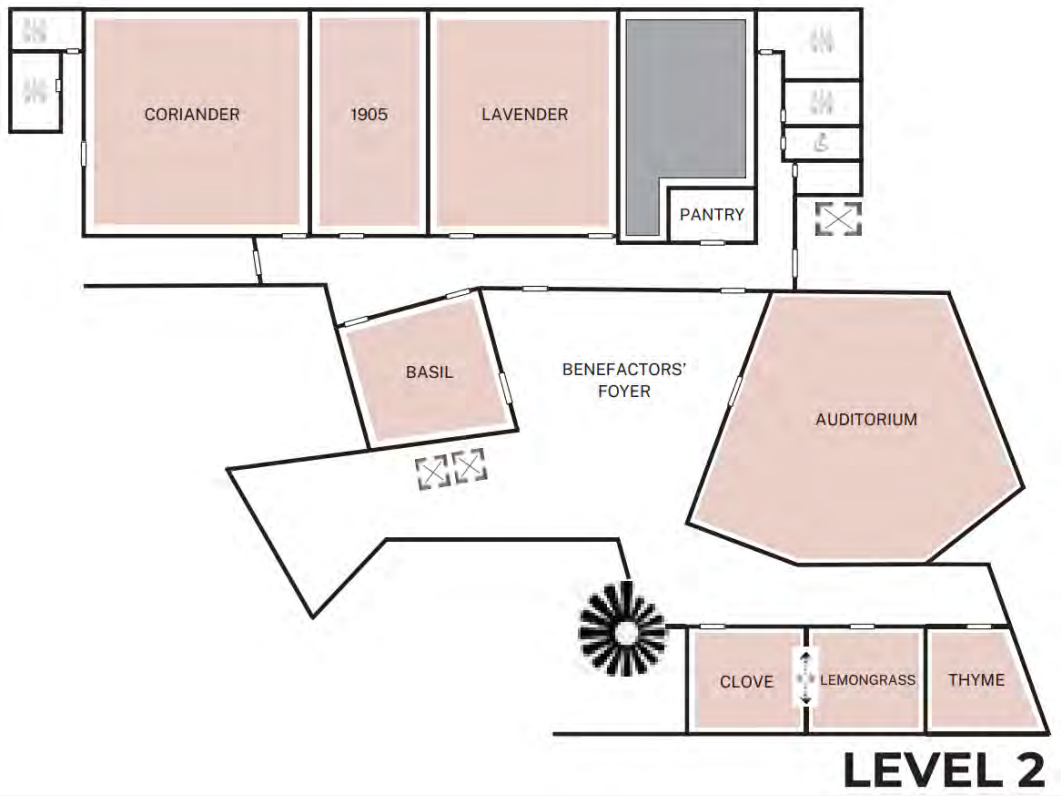
Conference Venue

National University of Singapore, Shaw Foundation Alumni House, 11 Kent Ridge Drive, Singapore 119244.

Floor Plan of Conference Venue

Refer to the floor plan for the break-out rooms for the parallel sessions





Registration

Registration is at Benefactors' Foyer (Level 2)

Tea-Break and Lunch

Tea-break and lunch are served at Waterway (Level 1). You are allowed to bring your food into the break-out rooms to eat. **However, no food is allowed in the Auditorium.**
Plain drinking water is also available at the venue for refilling of water bottles.

Banquet Venue

Peach Garden @ The Metropolis, 9 N Buona Vista Dr, #02-02, Singapore 138588

Note: All banquet tickets have been sold out. The banquet is **strictly reserved for keynote speakers, paid delegates, and student delegates who have purchased a banquet ticket**.

Banquet tickets will be distributed to delegates who have been assigned a seat during registration. Please remember to **bring your banquet ticket for entry to the banquet venue**.

Complimentary shuttle buses will depart from the conference venue at 17:30, transporting delegates to the banquet venue.

Free flow beer is available at the banquet from 6:00 to 8:00pm

Free flow wine is available at the banquet from 6:00 to 9:00pm