Concrete Horizons: Advancing Sustainability and Innovation in Concrete Technology

27th October 2023

American Concrete Institute - Singapore Chapter

2023 Annual Seminar

Theme: Innovations and Sustainability in Concrete Technology: Building a Stronger Future

Holiday Inn Singapore Orchard City Centre

27th October 2023 | 8:30 – 17:30

PEB PDUs: Pending
BOA-SIA CPD: Pending

In support of

BuildSG

The Institution of Engineers Singapore

Association of Consulting Engineers Singapore

Singapore Concrete Institute

SRMEG

Centre of Innovation Built Environment - Advanced Materials (COI BE-AM)

Temasek Polytechnic – Creating Tomorrow

Centre for Advanced Materials and Structures (CAMS)

RMCAS

同济大学新加坡校友会 Tongji University Alumni (Singapore)

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Introduction	Date
"Concrete Horizons: Advancing Sustainability and Innovation in Concrete Technology", organized by ACI -Singapore Chapter with the theme of "Innovations and Sustainability in Concrete Technology: Building a Stronger Future" in the year 2023, acts as a forum to promote innovation, sustainability and productivity in concrete technology and applications for construction industries. It aims for the exchange of knowledge and provides opportunities for industry experts, researchers, academics, and students to network in the field. This One Day CPD certified seminar has garnered renowned speakers comprising industry experts, academics, and private practitioners to share their expertise and vast knowledge for the rapid advances and developments in concrete technology.	27th October 2023 Friday **Time** 8.30am – 17:30pm **Venue** Holiday Inn Orchard City Centre, Crystal Ballroom (11 Cavenagh Rd, S229616)

Topics and Speakers	
Speaker	Topic
Er. Kaliannan Thanabal, Group Director (Building Resilience), BCA	Opening address
Er Tan Sze Tiong, Group Director/Chief Sustainability Officer, building & Research Institute, Building Cluster, Housing & Development Board	Driving Research and Innovation for Public Housing
Prof Tan Kang Hai, Director of Protective Technology Research Centre, School of Civil and Environmental Engineering, Nanyang Technological University	Deterioration of Concrete Durability in RC Slabs Subjected to Corrosion of Steel Bars: From Electrochemical Mechanism to Crack Propagation Modelling
Dr Geng Guoqing, Assistant Professor, Department of Civil & Environmental Engineering, National University of Singapore	Sustainable Concreting with Waste and Low-grade Material
Prof. Tan Ming Jen, Nanyang Technological University, Director of the HP-NTU Digital Manufacturing Corporate Lab	Collaborative Research in Concrete 3D Printing
Assoc Prof Yang En-Hua, Nanyang Technological University, School of Civil and Environmental Engineering	Advances in Self-healing Concrete
Dr Thong Ya Xuan, Lead Research Scientist, Centre of Innovation for Built Environment Advanced Materials (COI BE-AM); Singapore Polytechnic	Development of Flame Retardant FRP for Concrete Strengthening
Mr Chong Kai Yi, Executive Manager, Certification & Technology, Singapore Green Building Council	Certification of Green Concrete
Dr Chian Siau Chen, Darren, Associate Professor, Department of Civil and Environmental Engineering, National University of Singapore (NUS)	Cement Soil Stabilisation in Tropical Environment
Dr Wang Su, Senior Scientist, Pan-United Concrete Pte Ltd	Using Low-Carbon Concrete Technologies to Reduce Embodied Carbon
Mr Gan Cheng Chian, Technical manager, Building Products, Bekaert Singapore Pte Ltd	Tuas Water Reclamation Plant Pipeline Contract C1 (TWRPPL-C1) – Developing a Low-carbon Fibre Concrete Precast Segmental Lining Mix Design for Singapore's First Fibre Concrete Subsea Tunnel.
Dr Qian Shunzhi, Assoc Professor, School of Civil and Environmental Engineering, Nanyang Technological University	Sustainable Concrete/Engineered Cementitious Composites Production with Granite Fine

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Er. Thanabal's career in the built environment sector covers infrastructure design, supervision and regulatory work, including standards development. During his stint in the Public Works Department, he had designed a wide range of infrastructure covering buildings, municipal facilities, and bridges, including the elegant Robertson and Jiak Kim Bridges across the Singapore River that are now iconic landmarks. In his current regulatory role, he was involved in the development of policies, frameworks and standards, ensuring that buildings remain safe, which includes the development and publication of the previous 2 editions of BC1 in 2008 and 2012 respectively.

Mr Tan Sze Tiong as the Group Director of Building & Research Institute (BRI), a research set-up under the Housing & Development Board (HDB) of Singapore, Mr Tan is responsible for leading HDB's efforts in spearheading innovative, cost effective solutions and technologies to create a better living environment and achieve greater sustainability. Mr Tan is responsible for promoting Smart and sustainable development initiatives in HDB buildings and estates. Mr Tan is driving the holistic and comprehensive sustainable development framework to guide the development of new towns like Punggol Eco-Town in achieving sustainability goals including reducing carbon footprint and water usage, and enhancing greenery and biodiversity. In driving Singapore's Smart Nation agenda, HDB is championing the Smart Urban Habitat Domain and Mr Tan co-chairs an inter-agency working committee to spearhead the Smart town efforts, which aims to leverage smart technologies to make towns and estates more liveable, efficient, safe and sustainable.

Dr. Kang Hai Tan is a Professor in School of Civil and Environmental Engineering, Nanyang Technological University. He is also a Director of Protective Technology Research Centre. His research interests are in progressive collapse resistance of RC structures, fire resistance of RC structures, spalling behaviour of concrete materials under fire, durability of RC structures subjected to steel bar corrosion. A registered Professional Engineer (PE) in Singapore, Prof Tan is also a Specialist PE in Protective Security. He is in the Technical Committee (Building Structure & Sub-structure) 17th Standards Council Term and represents IES in the Selection Panel for certifying Fire Safety Engineers since 2005. Currently, he is Chairman of the Appeals Advisory Board for Infrastructure Protection (IPA) Act.

Dr. Guoqing Geng is an Assistant Professor in Department of Civil and Environmental Engineering in National University of Singapore. He leads a research team focusing on the sustainability and performance-based designing of construction materials, as well as predicting and enhancing their long-term durability. He is a board director of the American Concrete Institute – Singapore Chapter, Singapore Concrete Institute. He is also the East Asian Region Convener and technical committee members of RILEM. He is the recipient of the 2023 RILEM Colonnetti meda, awarded to researchers under 35 year old who have performed high level scientific research in the field of construction material.

Prof. Tan Ming Jen is currently the Director of the HP-NTU Digital Manufacturing Corporate Lab, and up to recently. the Programme Director in Building & Construction in the Singapore Centre for 3D Printing. He has B.Sc.(Eng) and Ph.D. degrees from Imperial College London, and been working at NTU for over 30 years. Since 2019, he has been on the World Economic Forum's (WEF) Global Future Council on Advanced Manufacturing and Value Chains. He is listed as a Global Shaker for his pioneering work on Concrete 3D Printing: https://globalshakers.com/world-shakers/tan-ming-jen/

Dr. Yang, En-Hua is Associate Professor with the School of Civil and Environmental Engineering at the Nanyang Technological University. He received his PhD degree in Civil Engineering (Materials) from the University of Michigan. His principal areas of research are high performance fibre-reinforced cementitious composites, intelligent cement-based materials, and waste to resource for construction materials. He is a LEED Accredited Professional certified by the U.S. Green Building Council. He currently serves as Associate Editor of Journal of Sustainable Cement-based Materials, Associate Editor of Frontiers in Built Environment - Construction Materials, Guest Editor of Engineering Structures, and Section Editor of Handbook of Cementitious Composites.

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Dr Thong Ya Xuan is a lead research scientist at Singapore Polytechnic's Advanced Materials Technology Centre (AMTC) under the Department for Technology, Innovation and Enterprise (TIE). With a robust background, she is dedicated to conducting cutting-edge research, notably in flame retardant polymers for concrete retrofitting and innovative flame resistant polyurethane foam for insulation. She is a key person in the 2022 launch of the Centre of Innovation for Built Environment Advanced Materials (COI BE-AM), a collaborative effort by Singapore Polytechnic, Temasek Polytechnic, and Republic Polytechnic. At the COI BE-AM, Dr Thong provides consultancy services for the built environment sector and drives tech innovation for local SMEs.

Mr. CHONG Kai Yi is an Executive Manager at Singapore Green Building Council (SGBC). He leads the certification of products under the Singapore Green Building Products (SGBP) scheme for Architectural, Civil & Structural, and Urban Greenery categories. In his presentation, Kai Yi will share on how SGBC certifies Concrete, and moving forward, how SGBP will incorporate Global Warming Potential as part of the certification assessment and the value it can bring to the industry.

Dr. Chian Siau Chen, Darren is an Associate Professor at the Department of Civil and Environmental Engineering at the National University of Singapore (NUS). Dr. Chian is also the Director of the Centre for Soft Ground Engineering and the Operations Manager of the Centre for Protective Technology in the university. Dr. Chian actively involves in collaborative research projects with local government agencies and private organisations to recycle unwanted soils into useful pozzolans in supplementary cementitious material technology. He has also been engaged to tailor performances of cement treated clayey soils in ground improvement projects.

Dr Wang Su is a Senior Scientist at Pan-United Concrete, a wholly-owned subsidiary of Pan-United Corporation Ltd (Pan-United). He has over a decade of experience conducting research on concrete and cementitious materials. At Pan-United, Dr Wang utilises the latest technology to innovate and develop specialised low-carbon concrete for the built environment. He also plays a pivotal role in studying and exploring the viability of using novel ingredients to enhance Pan-United's suite of concrete solutions. Currently, Dr Wang is a Co-Principal Investigator of a project sponsored by Singapore's national water agency, PUB, on the applications of carbon-negative minerals recovered from waste streams in concrete.

Mr. Gan Cheng Chian is Technical Manager for Bekaert Singapore Pte Ltd. Member of the Working Group on SS674-2021 since Jan 2019. Domain Expert for Sprayed Concrete and Fibre Reinforced Concrete under Intelligent National Productivity and Quality Specification Singapore since Mar 2019. Vice-President of Society for Rock Mechanics & Engineering Geology (Singapore) since Mar 2021. 34 years of civil engineering experience. 1998 to present, involved in over 22 sprayed fibre concrete tunnel linings and over 20 fibre concrete precast segmental and cast concrete tunnel lining projects.

Dr. Qian Shunzhi is an associate professor in School of Civil and Environmental Engineering at NTU, Singapore. He received bachelor's and master's degrees from Southeast University (Nanjing) and Chinese Ministry of Transport Highway Research Institute (Beijing) in 1998 and 2001, respectively, and a PhD from University of Michigan (Ann Arbor) in 2007. His areas of expertise include the development of advanced construction materials, such as Engineered Cementitious Composites, self-healing concrete and 3D printable concrete.

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WHO SHOULD ATTEND

- Architects
- Contractors
- Consultants
- Concrete Suppliers
- Developers
- Engineers
- Project Managers
- Site Engineers
- Site Supervisors
- Suppliers
- Sub-Contractors
- Technical Officers
- Researchers

REGISTRATION FEE

ACI-SC/SCI/IES/ACES /SRMEG/RMCAS/TJ Alumni Member	**S$300**
Non-Member	**S$350**
Student	**S$150**

REGISTRATION

Please register early to avoid disappointment.

Registration is only confirmed upon receipt of payment.

No walk-in registration is accepted on actual day.

Please scan QR quote below for registration:

Or click the Registration **LINK**

For further enquiries, please contact:
The Chair of Seminar:
Dr Geng ceegg@nus.edu.sg or admin@concrete.org.sg

PAYMENT

Payment for the seminar must be made before 15 Oct 2023 by **Paynow**:

Crossed cheque payable to "ACI (Singapore Chapter)" and mail to:
ACI (Singapore Chapter)
13 Hillview Crescent
Singapore (669437)

Internet banking:
ACI (Singapore Chapter) Bank Name: DBS Bank Code: 7171 Branch Code: 028 Account No: 0280025505

Telegraphic Transfer: DBS Bank Ltd Address: 12 Marina Boulevard, Marina Bay Financial Centre Tower 3, Singapore 018982, Bank Code: 7171, Branch Code: 028, Account No: 0280025505, Swift Code: DBSSGSG (Please email a copy of the TT slip to us. The payer is responsible for all bank charges incurred)

Withdrawal

There will be no refund for withdrawal but replacements are allowed. Request for withdrawal must be made in writing 3 days before the seminar.
The full fee will be charged for withdrawal or no-show on the day of the seminar.

Cancellation

The organisers reserve the right to amend any details relating to the seminar, revise the seminar fees without prior notice, cancel or postpone the seminar.

Others

The CPD points indicated for the seminar is subject to change and final approval by the relevant professional accreditation bodies.
The materials supplied to the company and individual applicant for the seminar ("Materials") are for their personal reference only and the company and individual applicant are not supposed to otherwise use the Materials.