

International Conference on

MIC

Modular Integrated Construction

Kowloon Shangri-La Hong Kong ♦ 24 April 2018

Organisers



發展局
Development Bureau



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

ABOUT THE CONFERENCE

The construction industry has been facing the challenges of high costs, declining productivity and lack of skilled labour. Wider adoption of innovative construction methods and advanced technology are hence keys to tackling these challenges. Modular Integrated Construction (MiC) provides a timely solution for enhancing the productivity and cost-effectiveness of the construction industry.

The International Conference on MiC is instrumental to raise the industry's awareness on the world trend of adopting MiC, as well as to provide a platform for local and overseas academics, professionals and practitioners to share experiences and knowledge on the latest developments and technologies.



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WELCOME MESSAGE FROM THE SECRETARY FOR DEVELOPMENT



Mr Michael W L WONG, JP
*Secretary of Development
The Government of HKSAR*

It is my great pleasure to host the International Conference on Modular Integrated Construction (MiC) in Hong Kong. The conference provides a resourceful platform for top-notch practitioners, enterprises and experts over the world to share their knowledge, insights and valuable experience in the application of MiC in construction projects.

The Government of the Hong Kong SAR works to promote and lead the adoption of MiC, with a view to enhancing work safety, productivity and cost-effectiveness. MiC will also play a vital role in tackling the challenges of high construction cost and shortage of skilled labour. The Government, being one of the leading industry stakeholders, is prepared to lead by example to implement pilot projects and support the application of MiC in Hong Kong.

I would like to express my sincere gratitude to our guests for their enthusiastic participation on which the event depends. I am sure participants in the conference will continue to spearhead innovation in the construction industry as well as the wide adoption of MiC in Hong Kong. I wish the conference the enormous success it so clearly deserves.

WELCOME MESSAGE FROM THE CHAIRMAN OF CONSTRUCTION INDUSTRY COUNCIL



Mr CHAN Ka-kui, SBS, JP
Chairman
Construction Industry Council

It is with great pleasure that I warmly welcome all distinguished speakers and delegates attending the “International Conference on Modular Integrated Construction”.

The construction industry worldwide, is suffering from stagnant progress and many issues affecting its sustainability. The Modular Integrated Construction (MiC) technique, which enables much structural, architectural and building services to be manufactured and installed in factories, to achieve better performance in safety, environment and quality, seems providing a logical solution.

The mission of the Construction Industry Council is to nurture a safe, productive, efficient and sustainable construction industry. We are delighted to co-organise this Conference together with the Development Bureau, providing a platform for industry stakeholders to share experience and insight on this important subject.

PROGRAMME

8:15 - 8:45 **Registration**

8:45 - 9:30 **Opening**

- **Welcome Remarks**
Mr Michael W L Wong, JP, Secretary for Development, HKSAR Government
- **Keynote Speech**
Ir Hon Chi-keung, JP, Permanent Secretary for Development (Works), HKSAR Government

9:30 - 12:30 **Morning Session: MiC Governance and Development**

- **Productivity and Cost-effectiveness in the UK and Hong Kong**
Mr Tim Hall, Buildoffsite UK
- **Modular Building in North America: Growing the Market**
Mr Tom Hardiman, MBI, US
- **Designing and Engineering for High-rise Offsite and Modular Buildings**
Mr Michael Hough, MJH, Ireland
- **Coffee Break**
- **Transforming the Way We Build – Singapore’s Journey in Construction Productivity and Prefabrication**
Mr Hugh Lim, BCA, Singapore
- **Are We Ready? Pilot MiC Project of Student Hostel at Wong Chuk Hang**
Ir Prof K L Tam, HKU
- **Development, Feasibility and Recommendation of MiC for Hong Kong**
Dr Wei Pan, HKU
- **Plenary Session 1**
Moderator: Ir Prof Eric S C Ma, GBS, JP, HSITP

12:30 - 14:00 **Lunch**

- **Luncheon Speech**
Mrs Fanny Law Fan Chiu Fun, GBM, GBS, JP, Chairperson, HKSTP

14:00 – 17:00 **Afternoon Session: MiC Practice and Guidance**

- **Prefabricated Prefinished Volumetric Construction (PPVC) in Singapore: NTU Case Studies**
Mr Paul Chain and Er Siew Hoong Kit, NTU, Singapore
- **Potential of MiC for Hong Kong: Industry Perspective**
Ir Kenneth Mo, Sanfield Building Contractors Ltd.
- **Prefabricated and Modular Building: CIMC Strategy and Project Studies**
Mr Boliang Mai, CIMC, China
- **Coffee Break**
- **Design for Manufacture and Assembly (DfMA) and Modular Construction in Australia**
Prof Tuan Ngo, Melbourne University, Australia
- **InnoCell – Co-living Space Embracing MiC**
Mr Simon Wong, HKSTP
- **Plenary Session 2**
Moderator: Prof Ben Young, HKU
- **MiC Tech Presentations:**
 - Mr Jian Zhong Yang, UB Shanghai Building Technology
 - Mr William Cao, Zhang Jiagang City Maristar Container Manufacturing
 - Mr John Mo, Moderna Homes Singapore
- **Closing Remarks**
Ir Albert Cheng, Executive Director, CIC

17:00 - 18:00 **Networking Cocktail for Practitioners**

SPEAKER PROFILES

KEYNOTE SPEECH



Ir HON Chi-keung, JP
*Permanent Secretary for
Development (Works)
The Government of HKSAR*

Ir Hon Chi-keung has been appointed Permanent Secretary for Development (Works) since April 2015.

Ir Hon graduated from the Department of Civil Engineering, University of Hong Kong in 1980. He also obtained a master's degree in Public Administration from the university in 1997. He is a fellow of the Hong Kong Institution of Engineers and Chartered Institute of Arbitrators.

Ir Hon joined the Government as an Assistant Engineer in 1983. He was promoted to Chief Engineer in 1999, to Government Engineer in 2005, and to Principal Government Engineer in 2008. He was Project Manager of Hong Kong Island and Islands Development Office of the Civil Engineering and Development Department from 2008 to 2011. He was the Director of Civil Engineering and Development from January 2011 to April 2015 before his appointment as Permanent Secretary for Development (Works).

SPEAKER PROFILES



Mrs Fanny LAW
GBM, GBS, JP

Chairperson
Hong Kong Science and
Technology Parks Corporation

LUNCHEON SPEECH

Mrs Fanny Law is a HKSAR Deputy to the 12th National People's Congress of the People's Republic of China, a Member of the HKSAR Executive Council, a Special Advisor to the China-US Exchange Foundation, a HK advisor of China Development Bank, and an advisor of Hong Kong X-Tech Startup Platform. Mrs. Law is also an External Director of China Resources (Holdings) Co. Ltd. and an Independent Non-executive Director of CLP Holdings Limited, China Unicom (Hong Kong) Limited, DTXS Silk Road Investment Holdings Company Limited and Nameson Holdings Limited.

Mrs Law graduated from the University of Hong Kong with an Honours degree in Science, and in 2009 was named an outstanding alumnus of the Science Faculty. She also holds a Master's degree in Public Administration from Harvard University and a Master's degree in Education from the Chinese University of Hong Kong.

Mrs Law had been an Administrative Officer of the government of the HKSAR for 30 years. Her services straddle a wide range of public policies, including medical and health, economic services, housing, land and planning, home affairs, social welfare, civil service, transport, labour and manpower planning, education and anti-corruption.



Ir Albert CHENG
Executive Director
Construction Industry Council

CLOSING REMARKS

Ir Albert Cheng is a seasoned construction professional with over 30 years' experience in the planning, design, management and implementation of mega public works projects. Prior to joining the Construction Industry Council, Ir Cheng was the Head of the Hong Kong-Zhuhai-Macao Bridge Hong Kong Project Management Office of the Highways Department and the Head of the New Territories East Development Office of the Civil Engineering and Development Department. Ir Cheng is a Fellow Member of the Hong Kong Institution of Engineers, currently the President of the Hong Kong Institution of Highways and Transportation and the Executive Director of the Construction Industry Council of Hong Kong.

SPEAKER PROFILES



Mr Tim HALL

*Director
Buildoffsite
United Kingdom*

Mr Tim Hall, Director of Buildoffsite, has been part of the membership for many years with Total Flow. He brings to the role thirty years' experience in instigating and managing change in manufacturing, construction and logistics. Tim is working with the delivery team to ensure that Buildoffsite shifts the emphasis from promoting to enabling construction offsite.

Buildoffsite is unique in its membership of clients, contractors, manufacturers, designers and specialists and our role is to act as the catalyst for members and the wider industry to collaborate and deliver greater construction value. Buildoffsite's emphasis is on application of tried and tested techniques to design and build waste free supply chains across housing, infrastructure, energy and the wider built environment.



synopsis



Mr Tom HARDIMAN

*Executive Director
Modular Building Institute
United States*

Mr Tom Hardiman, C.A.E. has been the Executive Director for the Modular Building Institute (MBI) since January 2004. MBI is an international non-profit trade association representing manufacturers and leasing companies of commercial factory-built structures in fifteen countries. Hardiman is also the Director of Government Affairs for MBI, having been a registered lobbyist with the United States Congress, and state legislatures of Virginia, West Virginia, Pennsylvania, and Maryland. In this capacity, he manages all the state and federal regulatory, legislative, and building code issues impacting the industry.

Hardiman earned bachelor's and master's degrees in Business Administration at Marshall University in Huntington, WV and the designation of Certified Association Executive from the American Society of Association Executives.



synopsis



Mr Michael HOUGH

*Director
MJH Structural Engineers
Ireland*

Mr Michael Hough is a chartered structural engineer with almost 30 years' experience in the construction industry and is the owner and Managing Director of MJH Structural Engineers, a consulting engineering practice specialising in offsite and modular construction. Michael is at the forefront of modular construction, founding MJH as a niche consulting engineering office, working with the most advanced modular construction systems in the world.

Michael has specialised in offsite and modular buildings for 15 years and has now completed the design of over 10,000 modules. During this time Michael has worked on modular buildings ranging in height, from single storey to 28 storeys of modules. He was responsible for engineering the structure for a 25-story modular build in Wolverhampton which was the World's tallest at that time. MJH are currently working on the World's tallest modular build in Croydon, London with two towers at 44 and 38 storeys.



synopsis



Mr Hugh LIM

*Chief Executive Officer
Building and Construction
Authority, Singapore*

Mr Hugh Lim graduated from the University of Liverpool in 1987 with a Bachelor of Engineering (First Class) degree on a Singapore Armed Forces (Overseas) Scholarship. He holds a Master of Science (Management of Technology) from the Massachusetts Institute of Technology, United States of America, 1998.

Hugh joined the Singapore Armed Forces in 1984, and attained the rank of Brigadier-General on 1 Jul 2005. He has served in a variety of command and staff positions, including Chief Engineer Officer, Commander 6 Division, Commander Training and Doctrine Command (TRADOC) and Chief of Staff, General Staff. Prior to joining BCA, Hugh was the Deputy Secretary (Community, Youth and Sports) at the Ministry of Culture, Community and Youth, and before that, the Deputy Secretary, Ministry of Law.



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SPEAKER PROFILES



Ir Prof K L TAM
*Director of Estates
The University of Hong Kong*

Ir Prof K L Tam is currently the Director of Estates and the Adjunct Professor in Faculty of Engineering in The University of Hong Kong. He is the Honorary President of the Hong Kong Institute of Construction Managers and a registered professional engineer with over 38 years' experience in project planning and construction management.

Served for about 28 years at The University of Hong Kong, Ir Prof Tam has been in charge of a variety of important and challenging projects for the university campus. These include the Medical Complex development at Sassoon Road and Stage I of the Centennial Campus project which has been selected as one of the 10 Hong Kong People Engineering Wonders in the 21st century by the Hong Kong Institution of Engineers, setting an unprecedented case in Hong Kong. Ir. Prof. Tam has been active in the community services related to the industry and served in various advisory boards.



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Dr Wei PAN
*Executive Director, CICID
The University of Hong Kong*

Dr Wei Pan is Associate Professor and Executive Director of Centre for Innovation in Construction and Infrastructure Development (CICID), Department of Civil Engineering of The University of Hong Kong (HKU). Dr Pan received his BSc (Distinction) in Civil Engineering from Hunan University and MSc (Distinction) and PhD in Construction Management from Loughborough University. He is a renowned academic in construction engineering and management, with expertise covering modular construction, productivity, offsite prefabrication, zero carbon building, smart construction, and technological innovation.

Dr Pan has secured/accessed over HK\$47million research funds and authored over 160 publications. Dr Pan first developed the theory of system dialectics and system boundaries for modular and zero-carbon building research. He has 23 years of professional experience in building engineering, construction and innovation management in China, Singapore, United Kingdom and Hong Kong. He is a Chartered Builder, a Chartered Environmentalist, and a Fellow of the Higher Education Academy.



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Mr Paul CHAIN

*Chief Executive Officer
Development & Facilities Management
Nanyang Technological University, Singapore*

Mr Paul Chain is currently the Chief Executive Officer for NTU Development & Facilities Management. Paul graduated from NUS in 1976 with a B.Eng. (University of Singapore). He has more than 41 years' experience in the built environment sector. Paul was sponsored by Singapore Technologies Construction to do an Executive Course in Harvard in 1990. Paul also has a B.A. in History.

Paul started his career with the Changi Airport Development Division of Public Works Department, Singapore. After registration as a Professional Engineer, he ventured out to the private sector. He became the Chief Executive Officer of the then Singapore Technologies Construction, Liang Court Holdings, and then Sembcorp Engineers and Constructors before his retirement.



Er SIEW Hoong Kit

*Director (Projects)
Development & Facilities Management
Nanyang Technological University, Singapore*

Er Siew Hoong Kit is the Project Director for construction of the Residential Halls at North Hill and Nanyang Crescent in NTU – both developments adopting PPVC – since 2014 to present. Prior to this portfolio, he was Divisional Director heading the building management division in ODFM-NTU. He has more than 30 years of experience in the local construction industry covering design consultancy, building management and project management of development projects.

For the past 4 years, Er Siew has been sharing NTU-ODFM's hands-on practical experiences in the adoption of PPVC with government agencies, major developers, architects, engineering consultants and contractors in Singapore including construction industry leaders from Hong Kong and Japan. Er Siew also jointly co-chairs BCA's Technical Committee to review and advice on the Good Industry Practice (GIP) Guidebook for PPVC, which was successfully launched by BCA in Oct 2017.



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SPEAKER PROFILES



Ir Kenneth MO

*General Manager
Sanfield Building Contractors Ltd.*

Ir Kenneth Mo is a qualified civil/structural engineer, as well as Authorized Person and Registered Structural Engineer under the Hong Kong Buildings Ordinance. He holds master's degrees in engineering and business administration.

Ir Mo is the General Manager of Sanfield Building Contractors Ltd., the construction subsidiary of Sun Hung Kai Properties. He has worked on constructions of an array of Hong Kong and Mainland projects, including the HK high-rises of 2IFC and ICC.



synopsis



Mr Boliang MAI

*CEO & President
CIMC, China*

Mr Boliang Mai has been the president of the Company China International Marine Containers (Group) LTD (CIMC) since 7 March 1994, CEO and president of the company since 27 August 2015, and an Executive Director of the company since 8 March 1994. Under his leadership, CIMC has become the global leader in multi-industries as a comprehensive enterprise group supplying logistics equipment and energy equipment for the global market.

Mai Boliang's outstanding achievements have been widely recognized by the society: he was awarded as one of China Economic Leaders of the Year by CCTV in 2004, one of 25 Most Influential Chinese Business Leaders by Fortune China magazine in 2005, one of 100 Economic Personages in 30 years' reform and opening up in China by China Economic Weekly in 2007, one of 30 Influential Economic Personages in Shenzhen's 30 years of reform and opening up in 2008 and one of 30 years industry leader in Shenzhen in 2010.



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Prof Tuan NGO

Research Director
ARC, CAMPG
The University of Melbourne, Australia

Prof Tuan Ngo is the Research Director of the ARC Training Centre for Advanced Manufacturing of Prefabricated Housing (CAMPH) at the University of Melbourne. He is also the Director of the Asia Pacific Research Network for Resilient and Affordable Housing. He has carried out significant research collaborations with industry to develop new building products and perform R&D experiments of prefabricated modular building structures. Prof Ngo has won a number of prestigious scientific awards, including the prestigious Eureka Science Prize for Outstanding Science in Safeguarding Australia.

He has been working as an expert on many projects to protect critical buildings against extreme events (blasts, impacts, fires and earthquakes). He is one of the pioneers in Australia in the areas of off-site construction, design for manufacturing and assembly, and sustainable and high performance modular building systems. Prof Ngo has also been leading the research and development of advanced protective materials and systems for a number of companies in the civil and defense industries.



synopsis



Mr Simon WONG

Chief Project Development Officer
Hong Kong Science and
Technology Parks Corporation

Mr Simon Wong is the Chief Project Development Officer of Hong Kong Science and Technology Parks Corporation. Mr. Wong obtained a Bachelor of Architecture from the University of Hong Kong. He is a Registered Architect and Authorised Person. He has over 25 years of experience and in-depth knowledge in master planning and design, project development and management, leasing and marketing, as well as repositioning and asset management for real estate developments in Hong Kong and Mainland China.

He currently leads the Project Development Division in planning and delivering all new development projects in Science Park and Industrial Estates, incorporating the latest technologies into building designs.



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MODERATOR PROFILES



**Ir Prof Eric MA,
GBS, JP**

*Acting Chief Executive Officer
Hong Kong - Shenzhen Innovation &
Technology Park Limited*

Ir Prof Ma is currently the Acting CEO of Hong Kong - Shenzhen Innovation and Technology Park Ltd responsible for the implementation of Hong Kong/Shenzhen Innovation & Technology Park.

Before joining HKSTP, Ir Prof Ma served in the Hong Kong SAR Government as the Secretary for Development, responsible for HK's overall land development policy covering land use planning, land disposal, building safety and infrastructure construction, urban renewal, and heritage conservation. Prior to serving in the HKSAR Government, Ir Prof Ma held various senior positions in the infrastructure and construction industry. Ir Prof Ma is a recipient of the honorable Gold Bauhinia Star (GBS) Award 2017 and a Justice of Peace (JP) 2014. Ir Prof Ma is an Honorary Professor of HKU in the Department of Real Estate and Construction.



Prof Ben YOUNG

*Associate Dean of Graduate School,
The University of Hong Kong*

Prof Ben Young is currently the Associate Dean of the Graduate School at The University of Hong Kong (HKU). He is a professor of structural engineering in the Department of Civil Engineering, HKU. He is the Vice-President of the Hong Kong Institute of Steel Construction. Professor Young is a committee member of the SEI/ASCE-8 Specification for the "Design of Cold-formed Stainless Steel Structural Members", American Society of Civil Engineers. He was one of the code writers for the "Hong Kong Code of Practice for the Structural Use of Steel" published by the Buildings Department, HKSAR.

Prof Young is a Co-Editor-in-Chief of the Journal of Constructional Steel Research, ELSEVIER. He has published over 450 international journal and conference papers. According to the ISI's essential science indicators, he has been listed for many years in the "Top 1% scholars" for highly cited papers.

MiC TECH PRESENTATIONS

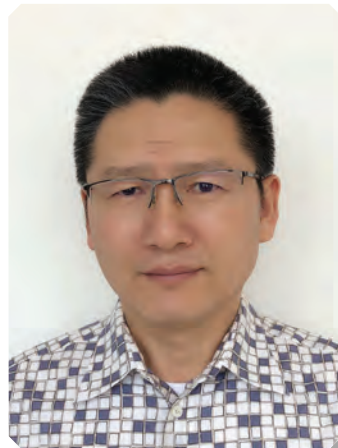


Mr Jian-zhong YANG
*Chairman
Unitised Building Ltd.
China/Australia*

Mr Yang graduated from South China University of Technology with a degree in Mechanical Engineering. He is currently the director of Unitised Building Hong Kong Investment Co. Ltd., and the Board Chairman of Unitised Building Shanghai Building Technology Co. Ltd.



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Mr William CAO
*Chairman
Maristar Container
Manufacturing, China*

Mr William Cao graduated from University in 1988. He is the founder and the Chairman of the Board of the Zhang Jiagang City Maristar Container Manufacturing, Maristar Building and Maristar Special Container since their establishment in 1998, 2006 and 2007 respectively.



[synopsis](#)



Mr John MO
*Managing Director
Moderna Homes, Singapore*

Mr John Mo graduated from the National University of Singapore (NUS) in 1988 and he has been in the construction Industry for the past 30 years. Mr Mo is currently the Managing Director of Moderna Homes Singapore, a wholly owned subsidiary of BBR Holdings Ltd. Moderna Homes is the specialist arm of the Group specialising in the business of PPVC.



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SPECIAL ACKNOWLEDGEMENTS





