





Ir Dennis Wan officiated the Symposium.



Prof. K. F. Chung presented on  
*“Key issues on design and construction of MiC buildings for enhanced productivity”*.



Panel discussion of the Symposium.

## PROGRAM RUNDOWN

13:30 – 14:00 **Registration**

14:00 – 14:15 **Welcome Speech**

Dr. Ivan SHAM  
Director of Research & Development (Construction)  
NAMI

**Opening Remarks**

Mr. Dennis WAN  
Principal Assistant Secretary  
Development Bureau, HKSAR

14:15 – 14:35 **Innovative Concrete MiC Wall Connection System**

Mr. Stephen LEE  
Chairman  
Chun Wo Construction Holdings Co., Ltd.

14:35 – 14:55 **Key Issues on Design & Construction of MiC Buildings for Enhanced Productivity**

Prof. Kwok Fai CHUNG  
Professor, Department of Civil and Environmental Engineering, PolyU  
Founding Director, Chinese National Engineering Research Centre for Steel Construction  
(Hong Kong Branch)

14:55 – 15:15 **Structural Integrity and First-in-HK Experimental Testing  
on Full-scale Lightweight Steel-Concrete MiC**

Dr. Yanmin WU  
Technical Manager  
NAMI

15:15 – 15:30 **Break**

15:30 – 15:50 **Development of Lightweight Concrete for Lightweight Steel-Concrete MiC**

Dr. Honggang ZHU  
Technical Manager  
NAMI

15:50 – 16:10 **The Challenges of Practicing Steel-Concrete Hybrid MiC in Hong Kong**

Mr. John CHOW  
Technical Director, CPC Construction Hong Kong  
Assistant General Manager, Chevalier Construction Company Ltd.

16:10 – 16:30 **Panel Discussion: How to Promote New Low-carbon Materials in Hong Kong**

**Moderator**

Ir. Thomas TONG, General Manager (Innovation), Construction Industry Council

**Panelists**

- Mr. Stephen LEE, Chun Wo Construction Holdings Co., Ltd.
- Prof. Kwok Fai CHUNG, PolyU
- Mr. John CHOW, Chevalier Construction Company Ltd.
- Prof. Joseph MAK, HKIE Materials Division
- Dr. Ivan SHAM, NAMI

In collaboration with CNERC, the Nano and Advanced Materials Institute Ltd. was granted a 2-year project entitled “*Hong Kong Modular Integrated Construction Innovations*” in July 2019 by the Innovation and Technology Fund under the Innovation and Technology Commission of the Government of Hong Kong SAR. The total project sum was HK\$26M including an industrial funding at HK\$8M contributed by four industrial partners.

The 2-year project aims to develop innovative MiC hybrid structural systems using high performance concrete and steel. With advanced material development and innovation applications of high strength light weight concrete, specific physical and mechanical properties of these high performance concrete are developed according to prevailing architectural, structural and durability requirements. Through structural engineering design development, innovative MiC building systems and modules with high strength S460 cold-formed steel with specific construction methods and details are formulated for low to medium rise buildings.

The research work undertaken at PolyU is led by Dr. T.M. Chan with support from Mr. H. Jiang and Dr. Y.F. Hu, and a comprehensive design development for effective use of S460 cold-formed rectangular hollow sections (CFRHS) in MiC is successfully completed. Key areas of investigation are:

- Mechanical properties of both flat elements and round corners of CFRHS
- Residual stress distributions within the CFRHS
- Axial compression behaviour of stocky and slender columns of CFRHS
- Beam behaviour of CFRHS
- Tension deformation of CFRHS joints
- Deformation behaviour of CFRHS frames under lateral loads