ICASS'2023

The 11th International Conference on Advances in Steel Structures

05 - 07 December 2023 | Kuching, Sarawak, Malaysia

Conference

Flyer (Final announcement)

Host

The Hong Kong Polytechnic University 香港理工大學

Organisers

Swinburne University of Technology

香港鋼結構學會 Hong Kong Institute of Steel Construction www.hkisc.org

Co-organiser

MyCSI

CONFERENCE ORGANISATION

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05 - 07 December 2023 | Kuching, Sarawak, Malaysia

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Civil and Structural Engineering Technical Division

IEM The Institution of Engineers, Malaysia
SARAWAK BRANCH

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05 - 07 December 2023 | Kuching, Sarawak, Malaysia

KEYNOTE SPEAKERS

Professor Ben Young (The Hong Kong Polytechnic University)

Professor Ben Young is Chair Professor of Steel Structures at The Hong Kong Polytechnic University. Professor Young's research interests include cold-formed steel structures, testing and design of steel structures, high-strength steel structures, stainless steel structures, aluminium structures, structural stability, fire resistance of metal structures and engineering education. He is currently a Co-Editor-in-Chief of the Journal of Constructional Steel Research.

Keynote title:

"Cold-formed high strength steel tubular T- and X-joints"

Professor Brian Uy (The University of New South Wales)

Professor Brian Uy is Scientia Professor of Structural Engineering in the School of Civil and Environmental Engineering at the University of New South Wales. Brian has delivered over 100 plenary/keynote/invited lectures and has been involved in research in steel and composite structures for over 30 years. He has co-authored over 700 publications including over 250 refereed journal articles. Brian is Chairman of the Standards Australia Committee BD-032 on Composite Building Structures and BD90-06 on Steel and Composite Bridge Structures. He is currently Vice President of the Institution of Structural Engineers (Australasia and South-East Asia) and the Australian Chairman of the International Association of Bridge and Structural Engineers.

Keynote title:

"Australasian advances in steel-concrete composite bridge and building structures"

Professor Emad Gad (Swinburne University of Technology)

Professor Emad Gad is the Dean of the School of Engineering at Swinburne University of Technology. He is a civil engineer with extensive experience in structural dynamics, residential construction and structural connections. His applied research has contributed to the development of several standards and codes of practice. He is the Chair of the Board of the Australian Engineered Fasteners and Anchors Council (AEFAC), Co-Editor of the Australian Journal of Structural Engineering, appointment member of the Victorian Government Building Advisory Council (BAC), Director on the Board of the Australian Steel Institute (ASI) and Fellow of Engineers Australia.

Keynote title:

"Application of blind bolts in steel moment connections"

Professor Guo-Qiang Li (Tongji University)

Professor Guo-Qiang Li is currently Professor at the College of Civil Engineering at Tongji University, a fellow of The Belgian Royal Flemish Academy of Sciences and Arts, the director of Research Centro of Education Ministry of China for Steel Construction and the director of National Research Centro of China for Pre-fabrication Construction. He is also a vice-chairman of Chinese Society of Steel Construction and a vice-chairman of Chinese Association of Construction Standardization. Professor Li's research has been mainly in the area of hazard mitigation for steel structures, including earthquake-resistance, fire-resistance and blast-resistance.

Keynote title:

"Early warning of fire-induced collapse of steel portal frame buildings"

Professor J.Y. Richard Liew (National University of Singapore)

Professor Richard Liew is Professor and Head of Department of Civil & Environmental Engineering at the National University of Singapore. He is a fellow of Singapore National Academy of Science, a Chartered Engineer in UK, a Professional Engineer in Singapore, and a Chartered Professional Engineer of the Association of Southeast Asian Nations. He is an Honorary Fellow and the Past President of Singapore Structural Steel Society. He serves on the editorial boards of 8 international journals. He is a key person responsible for the development of Singapore's codes of practices for steel structures and steel-concrete composite structures. He is at the forefront of pioneering research and educational initiatives in the domains of climate change mitigation and technologies associated with the advancement of smart city development.

Keynote title:

"Innovative steel-concrete composite systems for multistorey modular buildings"

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KEYNOTE SPEAKERS

Professor John L. Wilson (Swinburne University of Technology)

Professor Wilson is Emeritus Professor at Swinburne University of Technology. He is the past joint recipient of four Chapman Medals and one Warren Medal. He was the Victorian Division Chairman of Engineers Australia in 2002, Chairman of Judges for the Victorian Engineering Excellence Awards since 2011, Chairman of BD6/11, the committee responsible for the earthquake-loading standard for Australia and a member of ACI307 Committee. He is an expert in structural systems, earthquake engineering, structural dynamics and has consulted widely in these fields.

Keynote title:

"Design of steel structures in regions of lower seismicity using displacement principles"

Professor Kim J.R. Rasmussen (The University of Sydney)

Professor Kim Rasmussen is Challis Professor at the University of Sydney. He is also a member or chairman of numerous Standards Australia committees and a member of the editorial boards of most of the leading journals in his field. Kim's main research areas are theoretical and experimental structural mechanics with particular expertise in various steel structural members and systems. He was awarded the 2016 Shortridge Hardesty Award by the Structural Engineering Institute for his contributions to the development of practical design provisions and advanced analysis guidelines in the field of structural stability.

Keynote title:

"Connections – The full-range generalised component method"

Professor Keh-Chyuan Tsai (Taiwan University)

Born in Taipei, Taiwan, Prof. Keh-Chyuan Tsai received his bachelor of science degree in civil engineering from Taiwan University (NTU) in 1977 and a master of science degree from Stanford University in 1980. From 1980 to 1984, he worked as a structural engineer in the San Francisco office of Skidmore Owings Merrill. He completed his Ph.D. degree in the University of California at Berkeley in 1988. Prof. Tsai is a registered civil and structural engineer in Taiwan and California, USA. He has joined the faculty members in the Department of Civil Engineering of NTU since 1989. Prof. Tsai served as the director of the NCREE from 2003 to 2010. He has conducted research for more than 30 years on design, testing and analysis of steel structures subjected to earthquake loads.

Keynote title:

"Buckling-restrained braces using truss-frame as the restrainer"

Professor Leroy Gardner (Imperial College London)

Professor Leroy Gardner is Professor of Structural Engineering at Imperial College London. His principal research interests, in respect of which he has co-authored five textbooks and some three hundred papers, lie in the areas of structural testing, numerical modelling and the development of design guidance for steel structures. He is a member of the European and BSI Committees responsible for Eurocode 3 and Fellow of both the Institutions of Civil (FICE) and Structural (FIStructE) Engineers. He is Editor-in-Chief of Structures and the International Journal Steel Structures. Professor Gardner was awarded the IABSE Prize in 2017.

Keynote title:

"3D printed steel – Exploring opportunities for optimised and hybrid structures"

Host | **Organisers** | **Co-organiser**

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Professor Lin-Hai Han (Tsinghua University)

Professor Han is the first and second-level candidate of the first batch of National Millions of Talents Project, Chair Professor of Chang Jiang Scholars Program of the Ministry of Education, and the Chief Scientific Communication Expert of the Country. Professor Han won the Outstanding Contribution Award of the China Steel Construction Society Association for Steel-Concrete Composite Structures (CSCS-ASCCS). He is the Associate Editor of several international journals, including Journal of Structural Engineering, Structures and China Civil Engineering Journal. His research interests include encased and mixed structures.

Keynote title:

"Concrete-filled double skin steel tubular (CFDST) structures: Research, application and standard"

Professor Luís Simões da Silva (University of Coimbra)

Professor Luis Simões da Silva is Professor of Steel Construction at the University of Coimbra. He is also the president of CMM (Portuguese Steelwork Association, chair of the Technical Management Board of ECCS (2007-2013) and president of ECCS (2011-2013). He involves in large number of Technical and Scientific Committees in the field of Steel Construction, and actively involved in many internationally-funded R&D projects.. He is also the author of more than six hundred scientific papers in peer-reviewed journals and conferences.

Keynote title:

"Design and behaviour of beam-to-column joints connected to the column web or the faces of a tubular column"

Professor Ronald D. Ziemian (Bucknell University)

Professor Ron Ziemian serves on the American Institute of Steel Construction, American Iron and Steel Institute, and Aluminum Association Specification Committees. His research on applying advanced methods of computational analysis to better design for the stability behavior of metal structures has been recognized with several awards, including the ASCE Norman Medal, ASCE Shortridge Hardesty Award, AISC Special Achievement Award, AISC TR Higgins Award, and SSRC Lynn Beedle Award. Ron is currently Co-Editor-in-Chief of the Journal of Constructional Steel Research.

Keynote title:

"Design of steel structures with nonsymmetric sections by the direct analysis method"

Professor Todd A. Helwig (University of Texas at Austin)

Professor Todd Helwig is an international expert on the stability aspects of bridge construction with a focus on the design and behavior of steel structures. His research has been recognized with several awards including the ASCE Collingwood Research Prize, the ASCE Moisseiff Award, and the ASCE Shortridge Hardesty Award. Professor Todd's work on stability bracing systems in steel bridges was recognized at the North American Steel Construction Conference with a Special Achievement Award. He was also recently selected as the recipient of the 2017 T. R. Higgins Lectureship Award from AISC.

Keynote title:

"Effective stability bracing for steel girder systems"

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CONFERENCE PROGRAMME

Day 1
05 Dec 2023
Venue : The Waterfront Hotel, Kuching

Day 2
06 Dec 2023
Venue : The Waterfront Hotel, Kuching

Day 3
07 Dec 2023
Venue : Swinburne Sarawak Campus

The Waterfront Hotel Map

Get access to Wi-Fi
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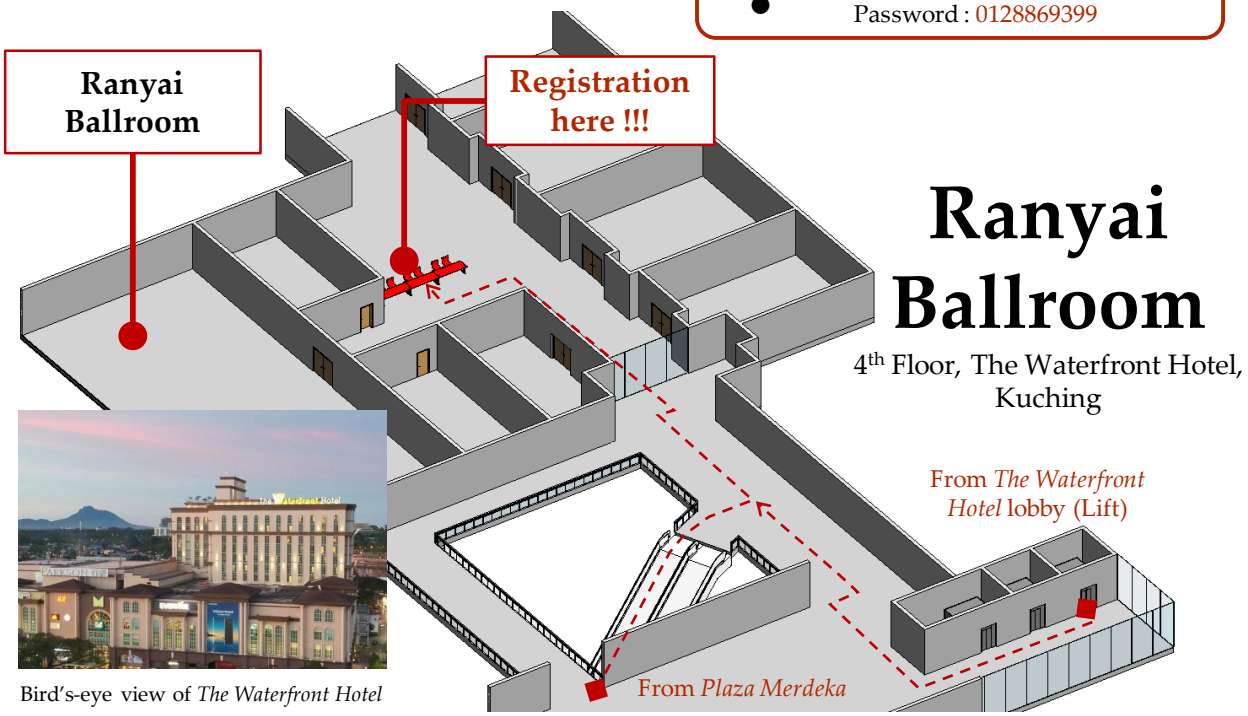

Bird's-eye view of *The Waterfront Hotel*

Ranyai Ballroom

4th Floor, The Waterfront Hotel, Kuching

From *The Waterfront Hotel* lobby (Lift)

16:00 - 17:00 **Early registration**

17:30 - 20:30 **Welcome reception – River cruise**

First come, first serve!

Availability of river cruise tickets is limited to the first 100 pax. Find us at the registration booth at 4 pm.

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CONFERENCE PROGRAMME

Day 1

05 Dec 2023

Venue : The Waterfront Hotel, Kuching

Morning Session

07:30 - 08:30	**Registration**
08:20 - 08:30	**Safety briefing / Housekeeping**
08:30 - 09:00	**Opening session**
09:00 - 10:15	**Keynote Session 1** Speaker 1: Professor Ben Young Speaker 2: Professor Brian Uy Speaker 3: Professor Emad Gad
10:15 - 10:45	**Coffee / Tea break**
10:45 - 12:00	**Keynote Session 2** Speaker 4: Professor Guo-Qiang Li Speaker 5: Professor J.Y. Richard Liew Speaker 6: Professor John L. Wilson
12:00 - 13:30	**Lunch**

Day 2

06 Dec 2023

Venue : The Waterfront Hotel, Kuching

Afternoon Session

13:30 - 14:45	**Keynote Session 3** Speaker 7: Professor Kim J.R. Rasmussen Speaker 8: Professor Keh-Chyuan Tsai Speaker 9: Professor Leroy Gardner
14:45 - 15:15	**Coffee / Tea break**
15:15 - 16:55	**Keynote Session 4** Speaker 10: Professor Lin-Hai Han Speaker 11: Professor Luís Simões da Silva Speaker 12: Professor Ronald D. Ziemian Speaker 13: Professor Todd A. Helwig
16:55 - 17:00	**Closing of Keynote day**
19:00 - 19:30	**Reception**
19:30 - 22:00	**Gala Dinner**

End of Day 2

Day 3

07 Dec 2023

Venue : Swinburne Sarawak Campus

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CONFERENCE PROGRAMME

Day 1	Day 2	Day 3
05 Dec 2023	06 Dec 2023	07 Dec 2023
Venue : The Waterfront Hotel, Kuching	Venue : The Waterfront Hotel, Kuching	Venue : Swinburne Sarawak Campus

Swinburne Sarawak Campus Map

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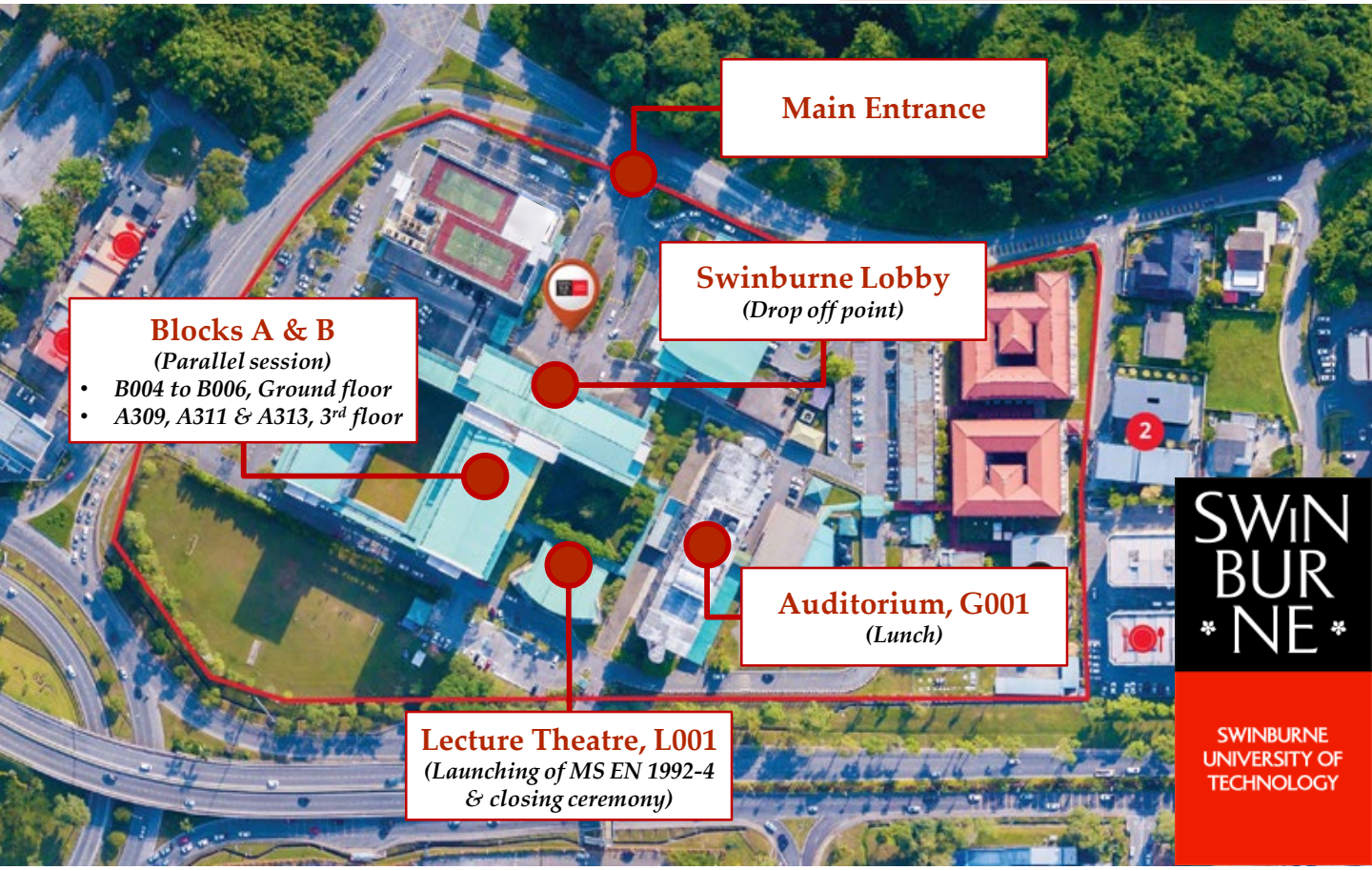

CONFERENCE PROGRAMME

Day 1
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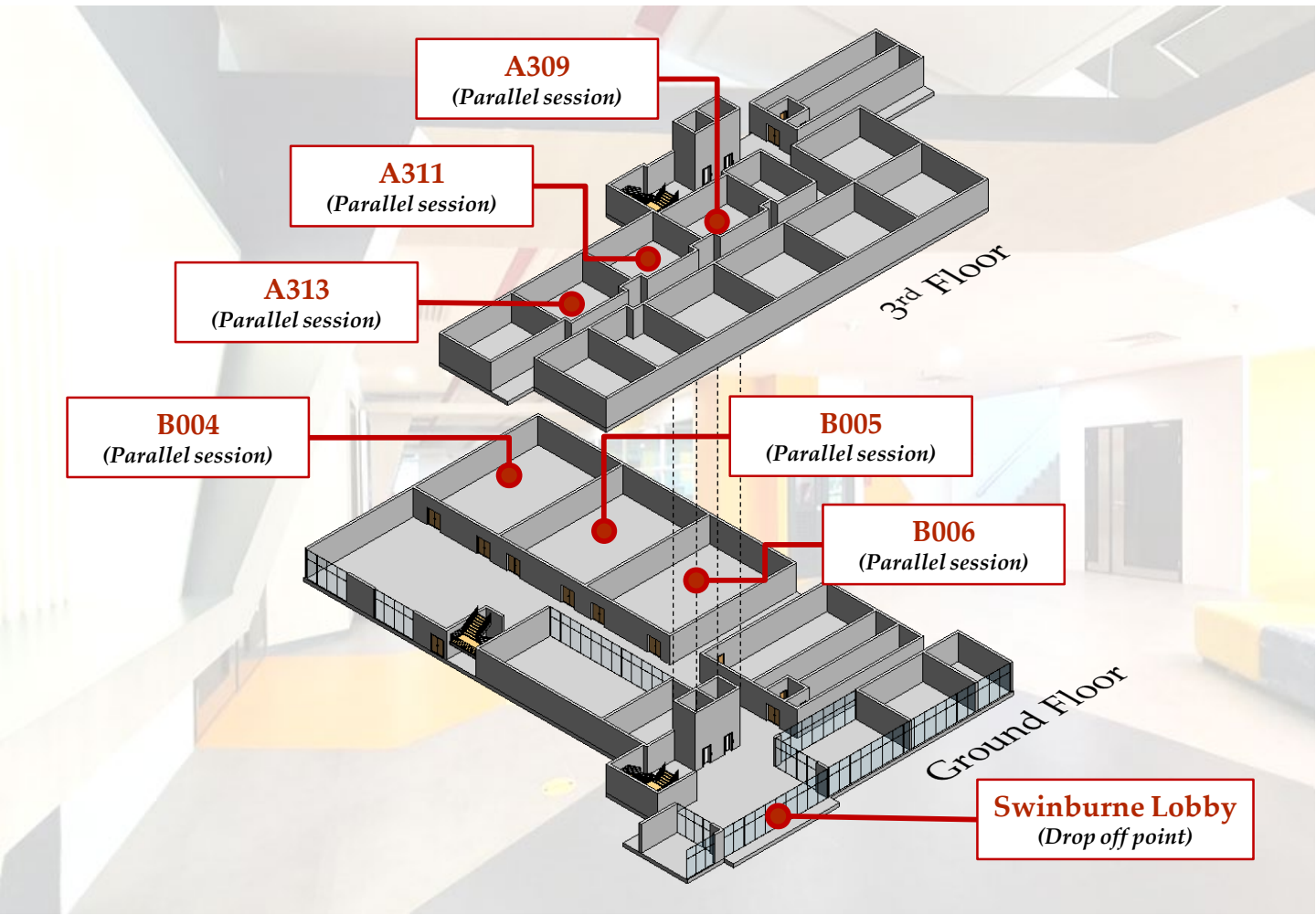
07 Dec 2023
Venue : Swinburne Sarawak Campus

Location of Parallel Sessions



CONFERENCE PROGRAMME

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05 Dec 2023

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Day 2

06 Dec 2023

Venue : The Waterfront Hotel, Kuching

Day 3

07 Dec 2023

Venue : Swinburne Sarawak Campus

Morning Session

08:00 - 09:00 — **Registration**

08:45 – 09:00 — **Launching of MS EN 1992-4**
Lecture Theatre, L001

09:00 - 10:30 — **Parallel session 1**

1A Room B004	1B Room B005	1C Room B006	1D Room A309	1E Room A311	1F Room A313
Cold-formed steel 1	Concrete filled tubular 1	Steel and modular structures	Earthquake engineering and structural dynamic	Steel connections 1	Fasteners

10:30 - 11:00 — **Coffee / Tea break**

11:00 - 12:30 — **Parallel session 2**

2A Room B004	2B Room B005	2C Room B006	2D Room A309	2E Room A311	2F Room A313
Cold-formed steel 2	Concrete filled tubular 2	Aluminium and temporary structures	Fire and other engineering 1	Steel connections 2	Welding technologies

CONFERENCE PROGRAMME

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Day 2

06 Dec 2023

Venue : The Waterfront Hotel, Kuching

Day 3

07 Dec 2023

Venue : Swinburne Sarawak Campus

Afternoon Session

12:30 - 14:00 — **Lunch**
Auditorium, G001

14:00 - 15:30 — **Parallel session 3**

3A Room B004	3B Room B005	3C Room B006	3D Room A309	3E Room A311	3F Room A313
Cold-formed steel 3	Concrete filled tubular 3	Special steel structure 1	Fire and other engineering 2	Steel connections 3	Parallel seminar

16:00 - 17:30 — **Coffee / Tea break**

16:00 - 17:30 — **Parallel session 4**

4A Room B004	4B Room B005	4C Room B006	4D Room A309	4E Room A311	4F Room A313
Structural steel	Composite walls	Special steel structure 2	Artificial intelligence & smart construction	Structural material	Parallel seminar

17:30 - 17:45 — **Closing Ceremony**
Lecture Theatre, L001

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PARALLEL SEMINAR

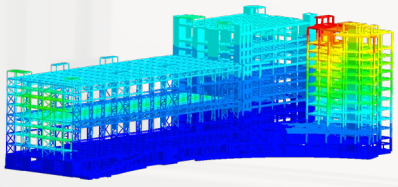
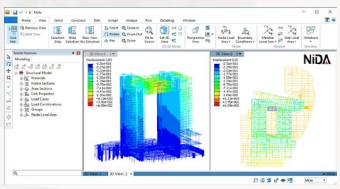
Codified second-order analysis for safe and economical design of Steel and composite structures

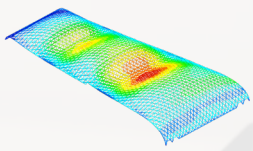
BEM Approved CPD Hours : 3 (IEM23/SWK/492/S)

1400 to 1600, 07 December 2023 | Room A313, Swinburne University of Technology Sarawak campus

About the workshops

The direct analysis in LRFD (2016) or the Second-order analysis in Eurocode-3 (2005) is an innovative performance-based method for design of steel and composite structures stipulated as a preferred method of design in these codes. The method is applicable to design of structures without slenderness limitation specified in Eurocode-3 (2005) for the linear analysis with effective length method and it has been a dominant design method of steel structures in Hong Kong, Macau and the region over the traditional effective length method, especially for long-span, slender steel structures and iconic structures such as the Guinness recorded world's longest span roof in MGM in Macau, where buckling is a consideration and the effective length factor used in the traditional linear analysis is uncertain and unreliable. Being a powerful tool with saving in material weight, improvement in safety margin and reduction in design effort and time, the direct analysis requires a basic understanding of the theory of nonlinear structural analysis by the users. This seminar highlights the background, theory, code application and practice for a proper, safe, cost-saving and codified direct analysis method of design without assumption of effective length for flexural buckling. Illustrations of its application to design of a number of practical steel frames over the past 3 decades in Hong Kong, Mainland China, Myanmar, Taiwan, Singapore and U.K., are shared in this seminar.



ABOUT SPEAKERS

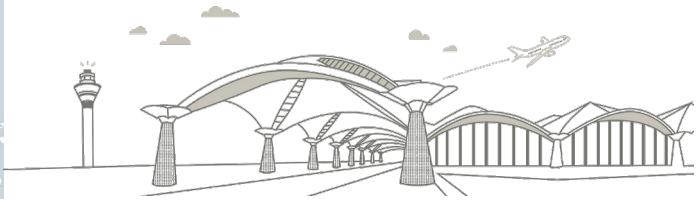
Dr Jake L. Y. Chan
(The University of Hong Kong)

Professor Yao-Peng Liu
(NIDA Technology Co. Ltd.)

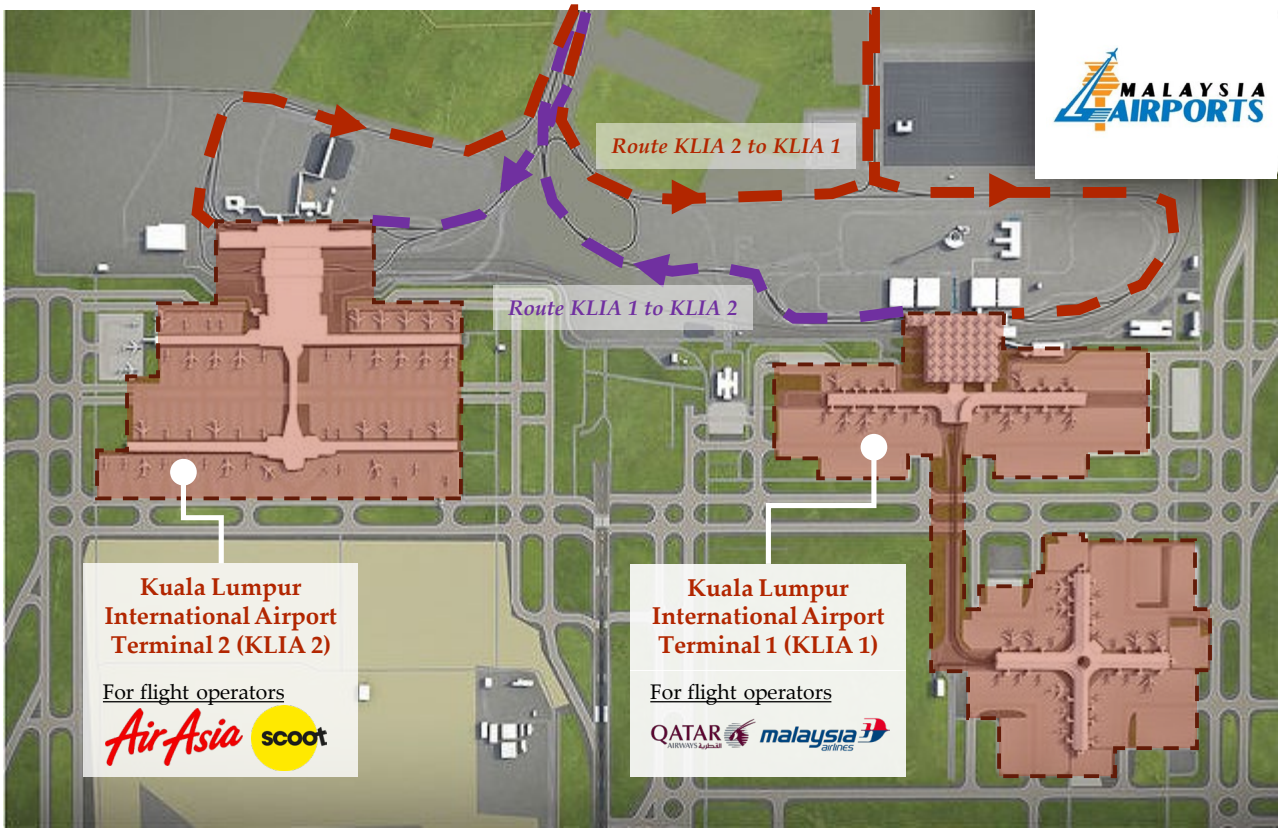
Professor Siu-Lai Chan
(The Hong Kong Polytechnic University)

GETTING TO KUCHING

Kuching is fondly known as the Cat City and the most densely populated city in Sarawak. It is approximately 1.5 flight hours from Singapore and Kuala Lumpur, Malaysia.



Transits in Kuala Lumpur International Airport (KLIA)



MALAYSIA AIRPORTS

Notes to International Delegate

Passengers with connecting flights between Terminal 1 and Terminal 2 can enjoy the free round-the-clock shuttle transfer services between the two terminals.

Watch the KLIA transit guide at
https://www.youtube.com/watch?v=G9EqW_L6g8A

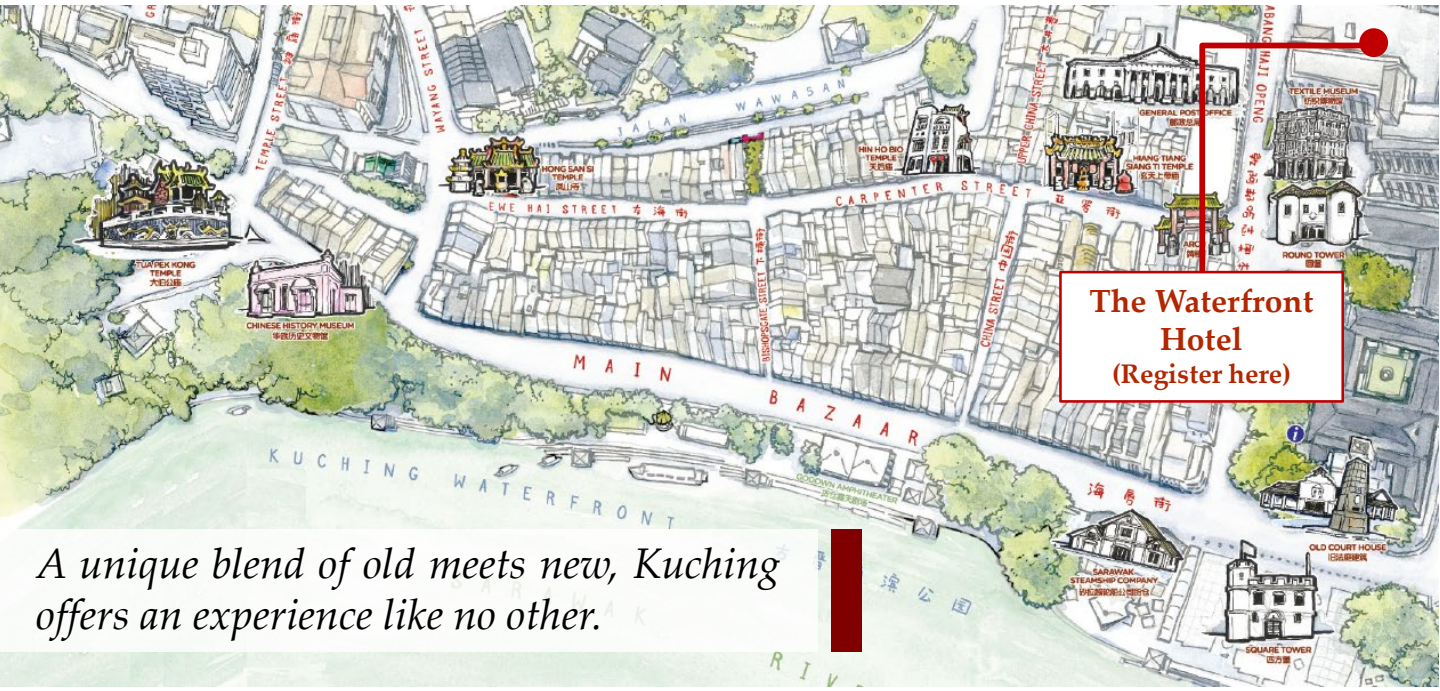
ARRIVAL IN KUCHING AIRPORT

Arrival hall

Immigration clearance

Find our helpers at the exit

TRAVEL AROUND KUCHING



A unique blend of old meets new, Kuching offers an experience like no other.

E-hailing service

For Android users

For iOS users