



## INTERNATIONAL SYMPOSIUM

# Recent Advances in Structural Design in Regions of Low-to-Moderate Seismicity

Jointly Organised by

*Department of Civil Engineering, The University of Hong Kong*

*Department of Civil and Construction Engineering, Swinburne University of Technology*

Supported by

*Structural Division, The Hong Kong Institution of Engineers, The Hong Kong Institute of Steel Construction,  
The Institution of Structural Engineers (U.K.) & The Hong Kong Institute of Vocational Education*

|               |  |
|---------------|--|
| <b>Date:</b>  | 28 June 2019 (Friday)  |
| <b>Time:</b>  | 9:00 – 17:00   |
| <b>Venue:</b> | Chow Yei Ching lecture Theatre A,<br>The University of Hong Kong |

### SYNOPSIS

The first statutory code of practice for the seismic design of building structures in Hong Kong will be released soon. This international symposium aims at bringing the key researchers and practitioners in the field of Earthquake Engineering locally and internationally to share with us the updated knowledge of seismic analysis and design of building structures in regions of low-to-moderate seismicity including Hong Kong.

The one-day event includes presentations by nine distinguished speakers from different parts of the world. Each of them will discuss about the fundamentals and the recent advances in a specialised topic with strong emphasis on the unique feature and requirements in regions of low-to-moderate seismicity. Topics include seismic design philosophy and performance objectives, advanced dynamic analysis, structural design at both member level and global level, as well as the application of seismic protection systems.

Language: English unless stated otherwise

**CPD Credit:** This course is recommended for one CPD-day credits.  
*Certificate of Attendance* will be issued.



## PROGRAMME RUNDOWN

| Time                                      | Topic   | Speaker                                 |
|---|---|---|
| 8:45 – 9:00                               | <i>Registration</i>   |   |
| 9:00 – 9:15                               | Opening Address – Ir Prof Christopher CHAO, <i>Dean of Engineering, HKU</i>                   |   |
| Morning Session Chair: Dr Daniel LOOI     |   |   |
| 9:15 – 9:45                               | Are Our Buildings Safe Enough?<br>– Case Studies for a Region of Lower Seismicity             | Dr Hing-Ho TSANG<br><i>Australia</i>    |
| 9:45 – 10:15                              | Seismic Design of Transfer Structures for Hong Kong Conditions                                | Ir Dr Ray SU<br><i>Hong Kong</i>        |
| 10:15 – 10:45                             | <i>Coffee Break</i>   |   |
| 10:45 – 11:15                             | Seismic Design of RC Shear Wall-Frame Structures in Singapore                                 | Ir Dr Kian Hau KONG<br><i>Singapore</i> |
| 11:15 – 11:45                             | New Approach in Seismic Torsion Analysis and Design of TU Building Structures                 | Prof Han Seon LEE<br><i>South Korea</i> |
| 11:45 – 12:15                             | Post-Earthquake Analyses of Damaged Heritage Structures in Sichuan ( <i>in Mandarin</i> )     | Prof Shichun ZHAO<br><i>China</i>       |
| 12:15 – 12:20                             | <i>Souvenir Presentation to Morning Session Speakers</i>                                      |   |
| 12:20 – 14:00                             | <i>Lunch Break (not included in the registration fee)</i>                                     |   |
| Afternoon Session Chair: Dr Hing-Ho TSANG |   |   |
| 14:00 – 14:30                             | Seismic Protection Systems and their Applications in Regions with Medium Seismicity           | Marcel GRUBER<br><i>Germany</i>         |
| 14:30 – 15:00                             | Simplified Shear Wall Detailing in Low-to-moderate Seismicity Regions                         | Dr Daniel LOOI<br><i>Malaysia</i>       |
| 15:00 – 15:30                             | <i>Coffee Break</i>   |   |
| 15:30 – 16:00                             | Resilience-based Earthquake Design  | Ir Dr Goman HO<br><i>Hong Kong</i>      |
| 16:00 – 16:30                             | State-of-the-art Studies on the Behavior of Coupling Beams                                    | Dr Zuozhou ZHAO<br><i>China</i>         |
| 16:30 – 16:35                             | <i>Souvenir Presentation to Afternoon Session Speakers</i>                                    |   |
| 16:35 – 16:50                             | Closing Remarks – Ir Prof Francis AU, <i>Head of the Department of Civil Engineering, HKU</i> |   |
| 16:50 – 17:00                             | <i>Collection of CPD Certificates</i>   |   |

(This programme might be subject to minor modifications without further notice.)

**Fee:** HK\$1,500 per person (*non-refundable*) (*including coffee/tea & refreshments*)

**Enquiries:** For general enquiries, please contact Ms Bridget Lam:  
Tel: 2859-2666, Fax: 2559-5337, Email: [owlam@hku.hk](mailto:owlam@hku.hk)

Please visit our website: <http://www.civil.hku.hk/IRASD19/>

## ABOUT THE SPEAKERS

**Dr Hing-Ho TSANG** is a Senior Lecturer at Swinburne University of Technology in Melbourne, Australia. He lectured Earthquake Engineering at HKU from 2007 to 2012, after obtaining his B.Eng. and Ph.D. degrees there, and was a Visiting Professor at Karlsruhe Institute of Technology, Germany, in 2013 and 2016. He served as a consultant to the Hong Kong Housing Authority, and has been a specialist consultant for major infrastructure projects. He is a key contributor to the revision of Australian earthquake loading standard, as well as the development of seismic design codes respectively for Hong Kong, China and Malaysia. He has authored or co-authored over 180 research articles. His scholarly achievements have been recognised by four international awards and five university prizes.

**Ir Dr Ray SU** is an Associate Professor at The University of Hong Kong. He is a renowned academic in seismic assessment and retrofitting of concrete buildings, with expertise covering site effects, seismic detailing as well as seismic behaviours of coupling beams, shear walls and transfer structures. He has published over 200 articles in the fields of earthquake and structural engineering, and has drafted the design references to improve the ductility of buildings and constructability of seismic details. Currently, he served as a consultant to Arup for the development of the local seismic design code, and an investigator for AXA to explore the seismic and wind vulnerability of structures in Asia Pacific. He is a fellow of Hong Kong Institution of Engineers and The Institution of Structural Engineers.

**Ir Dr Kian Hau KONG** is a Senior Lecturer at National University of Singapore. He graduated with a Bachelor's Degree with First Class Honors & PhD in Civil Engineering from NUS and was awarded the NUS President Graduate Fellowship. He specialized in Earthquake Engineering for his PhD studying the far-field & site effects of long distance seismic tremors to non-seismic designed buildings. He has been a practicing engineer, specializing in Buildings & Infrastructure Projects (including Bridges). He is a Chartered Structural Engineer & International Professional Engineer (UK) and has completed many structural, infrastructural and master planning projects. Dr Kong is currently serving as Panel Member of the Global Seismic and Dynamic Events in Institution of Structural Engineers (IStructE UK) and several C&S Technical Committees in Institution of Engineers Singapore and Singapore Accreditation Council.

**Prof Han Seon LEE** received his Bachelor of Architecture in 1977 and Master of Building Structure in 1981 from Seoul National University and his Ph.D. in Structural Engineering from the University of California at Berkeley in 1989. He has been a professor of structural engineering at Korea University since 1996. He was a vice-president at Earthquake Engineering Society of Korea. He is an honorary member of the Korean Structural Engineers Association. He has authored or co-authored over 200 papers. He has performed many earthquake simulation tests on the building structures over the last three decades and evaluated the validity of the earthquake resistant design in moderate seismicity regions.

**Prof Shichun ZHAO** is a professor at Southwest Jiaotong University and a guest professor at Kobe University. His research interests include seismic strengthening and flexible protective structures. He is a pioneer in the field of flexible protective structures in China and was a principal or co-principal investigator of 33 major research projects funded by the National Natural Science Foundation of China, the Chinese Academy of Engineering, China Railway Construction Corporation and Sichuan Province. Professor Zhao has published more than 100 SCI/EI cited journal papers and 40 Chinese journal papers. His research was awarded four national patents and four provincial and ministerial scientific and technological progress awards of China.

**Marcel GRUBER** is Product Manager for the MAURER SE in the Asia Pacific Region. His hometown is Munich, Germany where he obtained his first degree in Structural Engineering and Dynamics from the Technical University in Munich. Later on he as well visited HKU where he graduated with M.Sc. in 2016 in Structural Engineering. He has worked on various projects in Europe and Asia, notably the Hong Kong-Zhuhai-Macau Bridge where Tuned Mass Dampers were applied. In his position for MAURER he is a main promotor of advanced structural protection systems and anti-seismic devices in the region. MAURER is a German company and the technology leader for structural protection systems like structural bearings, dampers, isolators or expansion joints.

**Dr Daniel LOOI** is a Lecturer at Swinburne University of Technology (Sarawak campus), Malaysia. He obtained his B.Eng. (Civil) from The University of Malaya and Ph.D. (Structural) from HKU. He specialises in the field of earthquake engineering, with particular interest in the seismic behaviour of RC structures in low-to-moderate seismicity region. He is a key contributor to the development of the National Annex to Eurocode 8 on the seismic design of building structures for Malaysia. His research in concrete structures was recognised by the HKIE Outstanding Paper Award for Young Researcher/Engineer (2015). In his earlier career, Daniel worked as a structural application engineer in a multi-national company, specialised in structural analysis and design computation for buildings and plants.

**Ir Dr Goman HO** is an Arup Fellow and the Director of Innovations. He has been working with Arup since 1992. He was the first global leader for Arup Tall Buildings Skills Network. He was involved in many tall building projects with an accumulated height approaching to 8 km including CCTV HQs in Beijing, and the 597m tall Goldin Finance TJJ17 in Tianjin etc. He has published more than 30 technical papers in International Journal Papers and Conferences. Besides serving as reviewer for technical journals, the chief editor for "Tall Buildings in Asia", a co-author of "Outrigger Design for High-Rise Buildings", contributed a chapter in "Techniques in Vibration Analysis of Structural Steel Frames", and two chapters in "Design of Buildings and Structures in Low to Moderate Seismicity Countries".

**Dr Zuozhou ZHAO** is an Associate Professor at Tsinghua Univ., Beijing China. He obtained his B.Eng. and M. of Eng. degrees at Tsinghua Univ. in 1990 and 1992 respectively. Then, he served as an Assistant Prof. at Dept. of Civil Eng., Tsinghua Univ. He studied for his Ph.D. degree at HKU in 1997 and got it in 2003. After then, he lectured reinforced concrete structure, high-rise building structures at THU. His research interests are focused on seismic behavior of RC and SRC structural elements, safety inspection of structural systems. He has authored or co-authored over 60 research articles and 3 books.

# HKU Campus Map



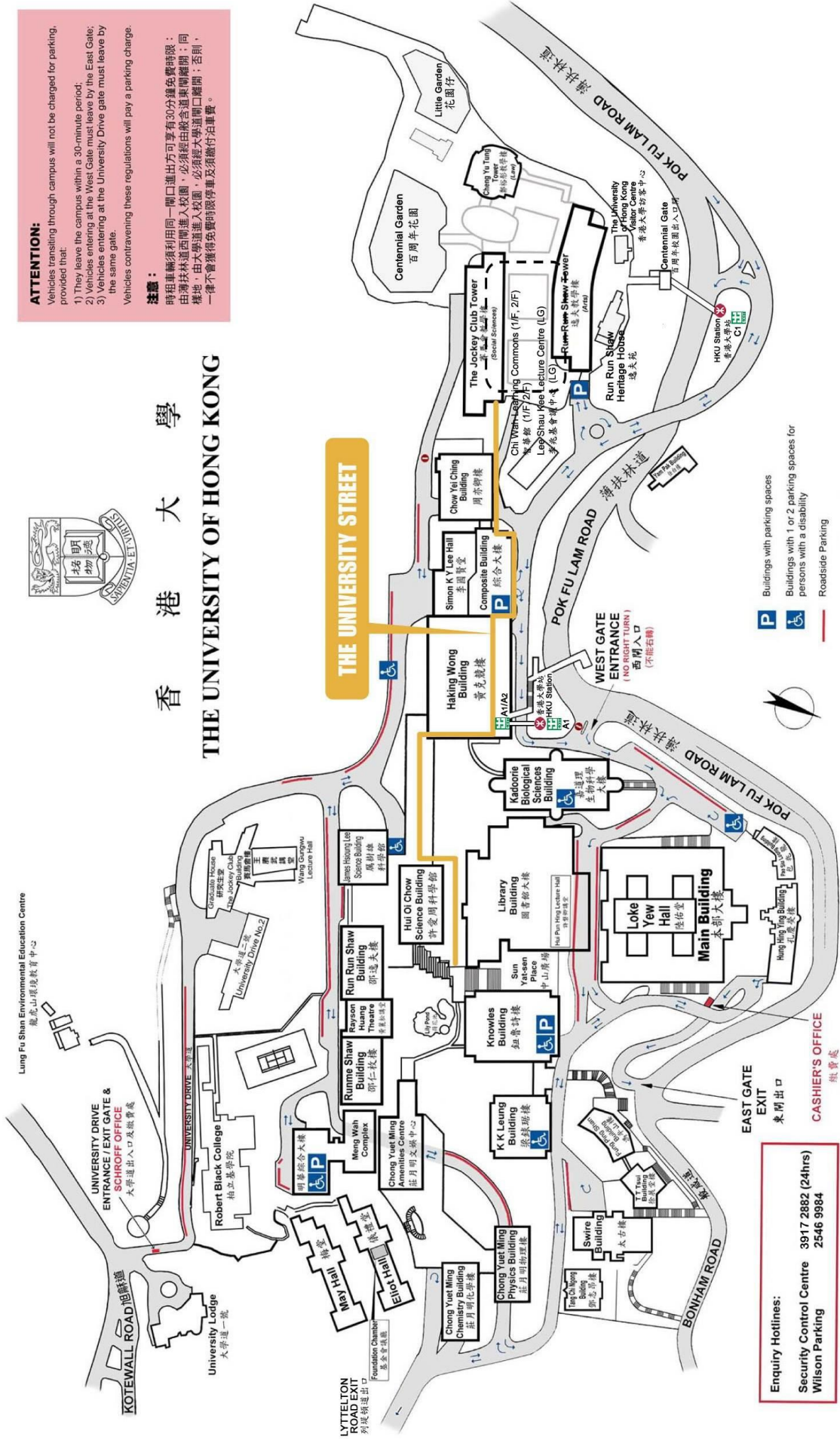
## 香港大學 THE UNIVERSITY OF HONG KONG

**ATTENTION:**  
Vehicles transiting through campus will not be charged for parking, provided that:

- 1) They leave the campus within a 30-minute period;
- 2) Vehicles entering at the West Gate must leave by the East Gate;
- 3) Vehicles entering at the University Drive gate must leave by the same gate.

Vehicles contravening these regulations will pay a parking charge.

**注意:**  
時租車輛須利用同一個口進出方可享有30分鐘免費時段；由灣仔林道西面進入校園，必須經由咸魚道東面離開；同樣地，由大學道進入校園，必須經大學道開口離開；否則，一律不會獲得免費時段停車及須繳付泊車費。



**P** Buildings with parking spaces  
 Buildings with 1 or 2 parking spaces for persons with a disability  
 Roadside Parking

**Enquiry Hotlines:**  
 Security Control Centre 3917 2882 (24hrs)  
 Wilson Parking 2546 9984

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## REGISTRATION FORM

To: Ms Bridget Lam, Symposium Secretariat

Please register me for the following event:

### **International Symposium on Recent Advances in Structural Design in Regions of Low-to-Moderate Seismicity**

**Date:** 28 June 2019 (Friday)

**Time:** 9:00 – 17:30

**Venue:** Chow Yei Ching Lecture Theatre A,  
The University of Hong Kong

**Course Fee:** HK\$1,500 per person

Please complete in ENGLISH (in BLOCK LETTERS)

|   | <b>Surname</b> | <b>Given Name</b> | <b>Name of Company</b> | <b>Telephone</b> | <b>Email Address</b> |
|---|----------------|-------------------|------------------------|------------------|----------------------|
| 1 |                |                   |                        |                  |                      |
| 2 |                |                   |                        |                  |                      |
| 3 |                |                   |                        |                  |                      |
| 4 |                |                   |                        |                  |                      |
| 5 |                |                   |                        |                  |                      |

| <b>Registration Fee</b> | <b>Number of Persons</b> | <b>Total</b> |
|-------------------------|--------------------------|--------------|
| HK\$1,500 per person    |                          | HK\$         |

The registration fee includes abstract book, coffee/tea & refreshments.  
*Certificate of Attendance* will be issued. All payments are non-refundable.

Please send the completed registration form with a crossed cheque made payable to  
“**The University of Hong Kong**” by **21 June 2019 (Friday)**:

*Ms Bridget Lam, Symposium Secretariat  
Department of Civil Engineering, The University of Hong Kong, Pokfulam Road, Hong Kong*

Please note that registration will only be confirmed upon receipt of payment and on a first-come-first-served basis. The organiser reserves the right to cancel or reschedule the symposium at its discretion.

Please do not send any cash in the post.

The official receipt for the registration fee will be distributed on the day of the course.

Enclosed Cheque No.: \_\_\_\_\_ Bank: \_\_\_\_\_

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