## DEPARTMENT OF



**Civil Engineering** 土水工程系小MNewsletter

SEPTEMBER 2019 - FEBRUARY 2020

# **Departmental Events**

Ir Tony Shum, a 1977 graduate, recently donated HK\$10M to The University of Hong Kong (HKU) to establish the Tony Shum Education Fund. The Fund aims to support the education and development of students in the Department of Civil Engineering. It will provide resources to enhance the teaching facilities of the Department, with the objectives of supporting the improvement of laboratory equipment, computers and software, and the renovation of laboratories and studios. The Fund will also provide support for students of the Department, enabling them to participate in experiential learning activities locally, on the Mainland and overseas, as well as in international competitions. The Fund will also offer financial support to students with financial needs.



### HKU Civil Engineering Distinguished Scholar Visiting Scheme 2018-19

Professor Andrew J. Whittle visited the Department of Civil Engineering on December 6, 2019 and had a technical workshop with four teachers and some research postgraduate students from the geotechnical engineering group in the afternoon.



Professor Whittle is the Edmund K. Turner Professor in Civil Engineering of the Department of Civil and Environmental Engineering, MIT, USA. He was the recipient of the HKU Civil Engineering Distinguished Scholar Visiting Scheme 2018-19. He gave a public lecture entitled "Advances in the Prediction and Control of Ground Deformations" on June 10, 2019 at the Department of Civil Engineering.



## **Professional Short Course Series - Seismic Design of Building and Bridge Structures**

The 3-day Professional Short Course Series - Seismic Design of Building and Bridge Structures was organised by our department and supported by the American Society of Civil Engineers (ASCE) in L'hotel Nina et Convention Centre, Tsuen Wan, Hong Kong on November 11, 12 & 14, 2019. It was Professor Nelson Lam in L'hotel delivered by Professor Nelson Lam of



Ninaat Convention Centre.

the Department of Infrastructure Engineering, The University of Melbourne, Australia and Professor F.T.K. Au, Head of the Department. The average daily attendance was over 50, including engineers from various government departments, consulting firms and construction companies.

# Staff Awards



Dr. Hao Guo, a postdoctoral fellow in Professor C.Y. Tang's research group at the Department of Civil Engineering, was selected as one of the 20 Innovators Under 35 for the Asia Pacific Region by MIT Technology Review. Some of the previous honorees of this prestigious award include Facebook's Mark

Zuckerberg, Google's Sergey Brin and Larry Page. The 2020 regional awardees were selected from a pool of more than 200 exceptional candidates, who are considered to be trailblazers in their respective fields and leaders of the next generation of technological breakthroughs.

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# A.Newsletter

Dr. Guo's research mainly focuses on membrane-based technologies for sustainable water production. He and his teammates developed an electricity- and chemicalfree water filter for disaster relief. Indeed, provision of safe drinking water is critical in the aftermath of major natural disasters. However, the disruption of electricity supply often renders conventional water treatment processes no longer reliable. An ideal treatment technology for disaster relief should be electricity- and chemical-free, compact, and highly efficient with the ability to remove contaminant instantaneously. Bearing these requirements in mind, Dr. Guo and his teammates invented a simple yet effective adsorptive filtration device for the removal of heavy metals (> 99.9%) and bacteria (> 99.9999%) without the need of electricity supply (US patent 62/831,382, "Nanostructured membrane filter for rapid water purification"). The invented filter can be further used as a low-cost technology to address water safety problems in many developing countries. This invention also won a Gold Medal at the 47th International Exhibition of Inventions Geneva.

Dr. Guo will attend the award ceremony hold in August 2020 in Singapore. As an honoree, he will deliver a speech to introduce the invention and showcase the prototypes of the water filter to the conference attendees from a diverse background, including policy leaders, entrepreneurs, company executives, tech media, and venture investors.

For further information, please contact Dr. Hao Guo via email guohao7@hku.hk.

**Dr. W. Pan** and his team including Dr. W. Zhan, Dr. L. Chen and Dr. A. Javed won the Outstanding Paper in the Emerald Literati Awards by Journal of Built Environment Project and Asset Management, Emerald Publishing 2019.



Dr. W. Pan and his team won the Strategic Public Policy

Funding Scheme (SPPR) 2019 for project entitled "Enhancing Modular Integrated Construction (MiC) Supply Chain in the Greater Bay Area (GBA) for Hong Kong Development.



Dr. W. Pan won Construction Innovation and Technology Fund (CITF) for project entitled "Digital Transformation in Construction". **Professor Z.Q. Yue** from the Department of Civil Engineering of the Faculty of Engineering of the University of Hong Kong and his team received the first class award of the 10<sup>th</sup> Science and Technology Award from the China Society for Rock Mechanics and Engineering for the study of the "Digital Image Based Numerical Methods for Analysis and Prediction of Behaviors of Soils and Rocks with Actual Meso-inhomogeneity under Loading" in the category of Natural Science.



Geomechanics calculate and predict the mechanical responses and behavior of rocks, soils and concrete from the elastic deformation to plastic deformation and/or brittle fracture. It plays the key role in geotechnical engineering and geohazard prevention. Following the continuum mechanics, the geomechanics have progressed greatly in the constitutive relations and numerical calculation methods. However, almost all the progresses were based on the fundamental assumption that the physical and mechanical properties of geomaterials are spatially homogeneous or piece-wisely inhomogeneous. They could not take the actual meso-heterogeneity into the calculations and predictions.

Professor Yue and his team members from the University of Hong Kong and Institute of Rock and Soil Mechanics of Chinese Academy of Sciences have started this research since 1992. They used the modern digital image technology and developed a numerical method for calculating and analysing of the mechanical behavior of the real geomaterials by using actual meso-heterogeneity. This method realised the precise measurement and digital representation of spatially distributed meso-heterogeneity in real geomaterials, and the calculation of the deformation and failure process of the mesoheterogeneous geomaterials under loadings. The project pioneered the numerical modelling of actual geomaterials and led the progress and development of relevant fields internationally.

"We are the only awardee for the First Class of Natural Science Award by the China Society for Rock Mechanics and Engineering in 2019. We have gone through a stringent evaluation process which included written recommendations from five peer experts, independent assessment of other peer reviewers, and face to face examination by an evaluation committee which comprised of 15 authoritative experts in the field of rock mechanics and engineering in China. The award is indeed very precious! It is a very important recognition of our research work at HKU's

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Faculty of Engineering by the top professional body of rock mechanics and engineering in China. We are delighted and encouraged and we will definitely devote to making more contributions in the future. "said Professor Yue.

"We congratulate Professor Yue and his team for the efforts in geomechanics. This award marks the consecutive year for Professor Yue to receive the award of its kind in a row and the class of award received had also been level-up. We are proud to see the team's effort has been paid off," Professor Christopher Chao, Dean of HKU Engineering said.

#### About China Society for Rock Mechanics and Engineering

The China Society of Rock Mechanics and Engineering is registered with the Ministry of Civil Affairs of PRC. The professional fields include water conservancy and hydropower, geological mining, railway transportation, national defense engineering, disaster prevention, urban construction, and environmental protection. It is an influential organisation in the Mainland that crosses industries, departments and disciplines. The Science and Technology Award of the China Society of Rock Mechanics and Engineering is sponsored by the China Society of Rock Mechanics and Engineering. This year marks the tenth year of the Award. The award has three categories, including the Natural Science Award, the Technology Invention Award and the Technology Advancement Award.

### **Research Grants:**

The following teachers were awarded the Environment and Conservation Fund:

**Dr. J. Choo**: Energy rock cavern systems in Hong Kong - Feasibility study through thermo-hydro-mechanical analysis.

**Dr. M.F. Guan**: Evaluating multi-scale performance of attenuation ponds on stormwater runoff management in subtropical climate.

**Dr. W. Pan**: Reducing construction waste in Hong Kong through adopting innovative modular integrated construction (MiC).

**Dr. G.Y.A. Tan**: Development of a novel photobioelectrochemical technology for energy-netural biogas polishing and sulphur recovery from saline sewage treatment works.

**Dr. C.H. Yeung**: Assessment of microplastics distribution in Hong Kong using innovative imaging technology.

## **Staff Activities/News**

**Dr. C.E. Choi** joined the Department of Civil Engineering as Assistant Professor in July 2019. Before joining the University of Hong Kong, he was Research Assistant Professor of Civil and Environmental Engineering at the Hong Kong University of Science and Technology (HKUST). His research focuses on sustainable development against landslide hazards. He is founding and current Chair of the Debris Flow and Steep Creek Hazards Mitigation Committee of the Association of Geohazard Professionals. He is a Board Member of the International Consortium of Landslides of the United Nations Educational, Scientific and Cultural Organization (UNESCO), Chair-



nominated Member of the Technical Committee on Slope Stability (TC208) of the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE), Hong Kong nominated representative for the Joint Technical Committee (JTC1) on natural slopes and landslides, and an invited expert scientist of the One Belt One Road Mountain Disaster Dynamics and Integrated Prevention team of the Chinese Academy of Sciences. He serves on the Editorial Board of the iournal Landslides. He received the 2017 Telford Premium Prize from the Institution of Civil Engineers in the U.K., the 2017 R.M. Quigley Award from the Canadian Geotechnical Society and the Fugro Paper Prize from the Hong Kong Institution of Engineers in 2015. He was appointed a Junior Fellow of the HKUST Jockey Club Institute for Advanced Study from 2015 to 2017 and from 2017 to 2019. He obtained his Ph.D. from HKUST and his B.Sc. (with distinction) from the University of Calgary.

**Dr. M.M. Hu** joined the Department of Civil Engineering as Assistant Professor in Spring 2019. Her main research interests are in the highly interdisciplinary areas emphasizing Green GeoTech for Energy and Environmental Sustainability, from the fundamentals of multiscale multiphysics



processes to emerging climate-adaptive applications. Before joining HKU, she worked as a Postdoctoral Research Fellow at University of New South Wales, Sydney, on the Vice Chancellor's Strategic Fund for Unconventional Energy Resources. Dr. Hu holds a B.Eng. in Civil Engineering from Zhejiang University, and a M.Sc. and Ph.D. in Civil and Environmental Engineering from Duke University.

**Dr. Y. Qian** joined in the Department of Civil Engineering as an Assistant Professor in September 2019. He worked as Research Fellow at Singapore Centre for 3D Printing. Before that, he also worked as postdoctoral Research Fellow at Ghent University in Belgium. He has obtained his Ph.D. at Columbia University in the City of New



York, his M.S. at Hokkaido University in Japan, and his B.S. at Huazhong University of Science and Technology in China.

He specializes in 3D concrete printing and concrete rheology, especially enhancing processing and placement of high performance concrete. He also works on sustainable construction materials using nanotechnology and nanoparticles.

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Dr. J. Choo delivered a public lecture in a workshop organized by the Korea Association of Underground Safety on September 25, 2019, on the methodology and importance of coupled hydro-mechanical analysis of underground behavior during urban ground works such as excavation.

### Dr. W. Pan

· delivered an invited keynote speech entitled "A Smart, Zero-carbon and Modular Future of Buildings" at the 8th World Construction Symposium 2019 (WCS 2019) "Towards a Smart, Sustainable and Resilient Built Environment", Colombo, Sri Lanka, November 8-10, 2019.





delivered an invited keynote "Innovative speech entitled Modular Integrated Construction" Hunan the (Changsha) at Prefabricated Building and Construction Technology Expo

cum Summit, Changsha, China, October 15, 2019.

• delivered an invited keynote speech entitled "Innovative Research and Development of Modular Integrated Construction and Zero Carbon Building in Hong Kong"

at the International Conference on AsiaCity 2050 "High Quality Construction Sustainable and Cities" cum China Construction 4.0 International Innovation Forum, Changsha, China, October 13, 2019.



- · delivered an invited keynote speech entitled "Block to Module: 4,600 years transforming" at the 35th Association of Researchers in Construction Management (ARCOM) Conference, Leeds, UK, September 2-4, 2019.
- · delivered an invited plenary speech entitled "Block to Module: Innovating Higher" at the International Conference on MiC of the Construction Innovation Expo 2019, Hong Kong, December 18, 2019.
- delivered an invited plenary speech entitled "High-density high-rise building innovation and talent development" at the 14th China National Built Environment PhD Supervisors Forum, Changsha, China, September 21, 2019.
- delivered an invited lecture entitled "Modularisation for Modernisation: Rethinking Hong Kong Construction" to the Architectural Services Department, HKSAR Government Training Academy Program, Hong Kong, September 27, 2019.
- has been appointed Advisor of the Hong Kong Green Building Council (HKGBC) Sustainable Development Committee (SDC) 2020-2022.

Professor S.C. Wong was appointed as Chairman of Logistics and Transportation Discipline Advisory Panel and Member of Qualification and Membership Board of the Hong Kong Institution of Engineers for the term 2019-2020.

### Professor J. Yang

 gave an invited talk on recent developments in soil liquefaction research at Geotechnical Engineering Office (GEO) of Hong Kong SAR Government on September 6, 2019.



- was an invited speaker and session chair at the Karlsruhe Colloquium on Geotechnical Engineering: Recent Contributions of Soil Mechanics and Geotechnics in Theory and Practice, Karlsruhe, Germany, September 26-27, 2019. His talk was entitled "Shear wave based method for liquefaction evaluation".
- was an invited speaker at the International Workshop on Earthquake Prevention and Hazard Mitigation of Port and Waterway, Harbin Institute of Technology, China, November 23, 2019. His talks was entitled "Developing a novel screening method for liquefaction evaluation".
- was an invited speaker and session chair at the IAS Workshop on Emerging Scales in Granular Media, HKUST, January 14-16, 2020. His talk was entitled "Wave propagation in granular material: some findings and insights".

#### Professor Z.Q. Yue

 was invited by the Civil Engineering and Tunnelling Communities of Practice to deliver a seminar on December 18, 2019. The seminar title is New Reclamation method. Professor Yue shared his research findings of land reclamation with MTR staff at Fo Tan Railway House. Professor Yue first reviewed the past and current reclamation



approaches in Hong Kong and their issues. He then presented a modular integrated construction (MiC) based unconventional approach for land reclamation and urban development over sea in Hong Kong. This MiC based approach has no dredging, no deep cement mixing of marine muds under seawater and no filling of sands and/ or public fills in seawater. He further introduced several specific new technologies to better, cost-effectively and rapidly realize the MiC based unconventional approach in Hong Kong with controllable quality, duration and cost.

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 was invited by the Tung Chung New Town Extension Office (TCNTEO) of the Civil Engineering and Development Department of the HKSAR Government to deliver a seminar on December 31, 2019. The seminar title is "New Approach on Land Reclamation". Professor Yue shared his research findings of the new land reclamation methodology with TCNTEO staff at the North Point Government Office. Professor Yue first reviewed the past and current reclamation approaches in Hong Kong and their issues. He then presented a modular integrated construction (MiC) based unconventional approach for land reclamation and urban development over sea in Hong Kong.



## **Student Awards**

Mr. Chan Chak Kwan, Mr. Kwan Tim Chung, Mr. To Lok Kan (CivE 2 19-20) and Mr. Wong Tsz Fung Mike (CivE 4 19-20) were awarded the YS and Christabel Lung Undergraduate Scholarship for Engineering Students (Renewal).

Mr. Chan Chun Yiu, Mr. Chan Wai Hang, Mr. Cheuk Kwong Tsun, Mr. Ho Ping Kin, Mr. Leung Hok Hin, Mr. Leung Tsz Hin, Mr. Siok Chun Him (June 2019 Graduate) and Miss Leung Siu Tung (September 2019 Graduate) were awarded the Ms Chu Yuk Baw Prize in Civil Engineering (Capstone Design Project).



Mr. Chow Tak Chun (CivE 4 19-20) was awarded the Centenary Scholarship for Engineering Students 2018-19 and the Tai Tung-Ngok Prize in Civil Engineering 2018-19.

Mr. Lam Cheuk Ting (June 2019 Graduate) was awarded the Gammon Construction Limited Prize in Civil Engineering 2018-19.

Mr. Lau Tsz Wing (CivE 3 19-20) was awarded the Edward Keller Achievement Award in Civil Engineering 2018-19.

Mr. Leung Shun Hei (June 2019 Graduate) was awarded the Wing Lung Bank Ltd Prize in Civil Engineering 2018-19.

Miss Natalia Levinna (June 2019 Graduate) was awarded the Ho Iu Kwong Prize in Civil Engineering 2018-19.

Mr. Lo Man Hon (June 2019 Graduate) was awarded the Centenary Scholarship for Engineering Students 2018-19 and the Civil Engineering Project Prize 2018-19.

Mr. Mak Tsun Hang (June 2019 Graduate) was awarded the Ms Chu Yuk Baw Prize in Structural Engineering and the Environmental Engineering Prize 2018-19.



Mr. Pan Yiyuan (CivE 4 19-20) was awarded the Hong Kong University Alumni Prize.

Mr. Siu Ho Kit (June 2019 Graduate) was awarded the Chow Che King Prize 2018-19.

Miss Song Hang (June 2019 Graduate) was awarded the Ms Chu Yuk Baw Prize in Civil Engineering (Final Year Project).

Miss Wong Ching Yi (June 2019 Graduate) was awarded the HK Cheng Prize in Civil Engineering 2018-19.

Miss Zhang Hemiao (CivE 3 19-20) was awarded the CL Tse Prize in Civil Engineering 2018-19.

Ph.D. student Mr. Nandun Madhusanka together with his supervisors Dr. W. Pan and Professor M.M. Kumaraswamy won the Highly



Commended Paper Award at the 8th World Construction Symposium (November) 2019 by Journal of Built Environment Project and Asset Management, Emerald Publishing.



Ph.D. students Mr. Z. Zhang and Mr. Z. Zheng (under supervision by Dr. W. Pan) and Mr. M. Wong (under supervision of Dr. S.H. Lee) won the Student Innovation Prize at the Construction Industry Council's Construction Innovation Award (December) 2019.

# MANewsletter

## **Updates on Project Mingde**

### About Project Mingde

Project Mingde was established by the Department of Civil Engineering in 2004. It provides an open platform for nurturing our students to acquire not only hard skills, but also to possess soft skills, such as a sense of social responsibility, by participating in real-world on-going civil engineering projects in remote impoverished regions in China and other Asian countries. We have a slogan "We grow as we build" and that is the core value of Project Mingde. Project Mingde attracts not only Civil Engineering students, but also students from other disciplines and institutions to participate in this meaningful programme. We hope that students would have personal growth through this experiential learning opportunity and participation in various real-life projects; and also education in impoverished localities in China could be provided. For more information about Project Mingde, please visit our official website at http://www.civil.hku.hk/mingde/.

Alumni are welcome to join Project Mingde and if you are interested to be part of us, please contact Dr. C.P. Wong at cpwryan@hku.hk (for projects) or Dr. K.H. Law at adalaw@hku.hk (for communications).

### Restoration and Expansion of Guigang Duling Primary School

Dr. C.P. Wong and Ir Keith Chan led a team of three students to Guigang on November 9-10, 2019. The students took this opportunity to discuss with the Principal of Guigang Primary School, Project Architect Elisabeth Lee, Contractor Boss Wu and local government officials on the design of the kindergarten and confirm the schedule of construction works. Some amendments on the architectural designs of facade walls and classrooms, and the structural designs of elevated staircases and washrooms were proposed and discussed. Regarding the project schedule, the feasibility study and architectural design were agreed to complete as soon as possible, while the site formation and ground investigation works would commence in early 2020. Accordingly, the land surveying work in the vicinity of the proposed kindergarten was conducted to estimate the quantity of soil or structure to be excavated and removed.

In addition, the construction work of toilet was almost finished. There were still some minor problems on the water supply and flushing system pending for rectifications. The free-standing façade wall outside the toilet would be built and the old security house would be demolished.

Steps were added for hand-washing basin because of the height difference of kindergarten and primary school students.



An innovative design of façade walls to allow natural lighting and ventilation.

### Wangdong Footbridge

Professor L.G. Tham and two students went to Rongshui in December to inspect the construction work of Wangdong Footbridge. The reinforced concrete piers and desks were reinstated, and the cables and anchorages for suspended section were completed. The contractor was paving the wooden deck during our visit trip. Wangdong Footbridge would be completed shortly in January and an opening ceremony would be scheduled afterwards.

The team also spent some time to visit Tengcun Bridge, and other construction sites in Rongshui. These site visits provided a learning opportunity to students on the construction practice of real-world projects in Mainland China.





Professor L.G. Tham and Jacky inspected the bridge pier of Wangdong Footbridge.

The construction work of Wangdong Footbridge was completed in January.

#### Name of students joined the site visits for various projects:

November 9-10 (Guigang): LI Hon Yuen, CHAN Chak Kwan, CHEUNG Wang

**December 19-21 (Wangdong):** WONG Sing Wa Jacky, HEUNG Pak Ki Patrick (Law)

## **News from Alumni**

Ir Wong Kwan Lok Eugene (BEng 2008 and LLB 2010 graduate) received his MPhil from the University of Cambridge in November 2019 and has been awarded the HKIE Young Engineers Arthur & Louise May Memorial Scholarship to continue his PhD study at Cambridge. He also received the ICE British



Tunnelling Society Harding Prize in London on 18 April 2019.

# A Newsletter

The Harding Prize is awarded annually or biannually to the winner of a competition for the best paper of interest to the tunnelling industry.



### A view to the past : the brief term of Professor K. Billig at the Department of Civil Engineering (1950 - 1952)

#### By Professor A. Koenig

In the course of the 90-year anniversary celebrations of the Faculty of Engineering in 2001/2, some in-depth research was carried out in preparation of the commemorative anniversary volume. A list of all former professors was made, accompanied by a brief biography. My eye caught a 'Doctor of Technical Sciences' degree from the Vienna University of Technology, together with the name of 'K. Billig'. He had served from 1950-1952 as Professor and Head of the Department of Civil Engineering. It was difficult to imagine that during earlier colonial times non-British Europeans or people with non-British academic degrees would have been hired. Who was 'K. Billig', and what was his connection to Vienna?

After an intensive search, a comprehensive article was discovered, published in the Hong Kong University Engineering Journal of 1952 on the occasion of Professor Billig's departure from Hong Kong. Additional inquiries at the archives of the Technical University of Vienna, the Institution

of Structural Engineers, the Institution of Civil Engineers, both UK, and the Central Building Research Institute, India, helped to supplement the article and to track Dr. Kurt Billig's career which can be summarized as follows:

1907 4<sup>th</sup> of May born in Vienna, Austria, Austrian citizenship. Father: Osias Billig, merchant; residing at Wien 2, Lilienbrunngasse 18/22. 1913-26 Educated at State School and State Realgymnasium, Vienna 1926-31 Study of civil engineering at Technical University of Vienna 1928-32 Working as engineer for Messrs. A.C. Fleischer on the design and construction of dwelling houses and office buildings 1932-37 In contract with the Russian Government as civil engineer for the design and erection of industrial plants With Messrs. Delap & Waller Consulting Engineers, Ireland and 1938-43 in London with Major J.H. Waller (M), Consulting Engineers, as Chief Assistant. 3 years as Chief Assistant to Major J.H. de Waller (M) and from 1943-50 1947 as Partner in the Firm of Waller and Billig, Consulting engineers, London Lecturing on pre-stressed concrete at the College of 1947 Technology, Victoria University, Manchester, UK 1947-48 Consultant to Ministry of Works on pre-stressed concrete. Designed and supervised equipment on Experimental Station, Field Test Unit, M.O.W. Barnet. Designed and supervised manufacture of prototypes of precast pre-stressed concrete units, transmission poles, joists, floor units, etc. Doctoral studies at Technical University of Vienna 1947-49 1949 Oct-Dec 1949 Lecture tour though the USA, on the invitation of the American Society of Civil Engineers, lecturing at 25 universities and technical institutes; 8 July obtained degree of Dr. of Technical Sciences (Dr. 1950 techn.) after completing dissertation on development of pre-stressed concrete 1950-52 Professor of Civil Engineering at the University of Hong Kong, Hong Kong 1952-55 Director, Central Building Research Institute (CBRI), Roorkee, India Partner in Waller & Billig Consulting Engineers, London, UK 1955-56 1957 UN Technical Assistance Mission, Karachi, Pakistan

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# Newsletter

- 1957-59 Taylor Woodrow Construction Ltd, Southall, Middlesex, UK
- 1960-61 Residing in Northwood, Middlesex
- 1962-63 Higher Institute of Technology, c/o Resident Representative of UNTAB (United Nations Technical Assistance Board), Tripoli, Libya
- 1964-67 'Personal', UNESCO, Paris, France
- 1968-69 Facultade de Tecnologia, Universidade de Brasilia, Brasilia, Brazil
- 1970-72 Residing in Northwood, London, UK
- 1973-82 Retired to Sydney, Australia; year of death unknown

#### **Professional memberships:**

M.I.Struct.E., London; M.ICE, Ireland; M.ICE, London; M.ASCE, M. Österreichischer Ingenieur- und Architekten-Verein (= Institution of Engineers and Architects of Austria)

#### Important book publications:

Billig, Kurt (1952) Prestressed concrete. Macmillan, London. Billig, Kurt (1955) Precast concrete. Macmillan, London. Billig, Kurt (1955) Precast concrete.Van Nostrand, New York. Billig, Kurt (1960) Structural concrete. Macmillan, London.

The Hong Kong University Engineering Journal of 1952 described his term in Hong Kong as follows:

"In 1950, Dr. Billig came to Hong Kong University as Professor of Civil Engineering and Head of the Department. His whole work here was directed toward one aim: to attain the recognition of our Engineering Degree by the Institution of Civil Engineers in London. [...] During his short term in office, Professor Billig has introduced two measures aimed at raising the level of post-graduate education. In 1951 he held the first course for graduates. More than hundred engineers and architects enrolled and more than 80 percent attended regularly. [...] The second novelty was the introduction of a post-graduate Research

Course. A considerable amount of modern equipment was purchased from abroad to enable students, under-graduates and post-graduates, to follow the most modern developments in engineering by experimental work."

Actually we do not know the reason why Dr. Billig chose to come to Hong Kong in the first place or why he left after such a brief term. We do know that eventually Dr. Billig abandoned his career in academia, with the exception of a brief stint in Brasilia, while he managed to fully indulge in his hobby of travelling abroad. Wondering why he worked in so many countries for brief terms only, may hint at a somewhat complicated personality. Anyway, Dipl.-Ing. Dr. techn. Kurt Billig, an Austrian by birth and a citizen of the UK by naturalization, was an eminent international capacity on concrete, based on hard work, extensive practical experience and underpinned by incisive research. His books are still held in many libraries worldwide, including the Library of the University of Hong Kong. Some of his scientific achievements, e.g. his research on fiber-concrete construction and low cost housing construction in tropical climates, attained lasting prominence up to this day. Though he served only briefly at the University of Hong Kong, he left a remarkable impact. Perhaps, he was too big a fish in a small pond.



Photo of Civil Engineering Graduates of 1951 with Professor K. Billig (center).

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Project Mingde

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