Micromechanical origin of grain size segregation

Brazil Nut Effect

Shear

Debris Flow

The preferential upward migration of larger particles in a flowing mixture is now shown to be driven by the shear at particle scale, according to computer simulations with discrete element method.

Departmental Events

Ninth Lumbr Lecture

Professor Kenichi Soga, Chancellor’s Professor of Department of Civil & Environmental Engineering, University of California Berkeley, delivered the Ninth Lumbr Lecture on November 22, 2016 at Rayson Huang Theatre, The University of Hong Kong (HKU). The title of the Lecture was “Developing Smart Underground Infrastructure Using New Generation Sensor Technologies”. The event was well attended by about 200 engineers, academics and students. The Lumb Lecture was established in 1999 to mark Professor Peter Lumbr’s contributions to the engineering profession and education. The Lecture was organized by the Department of Civil Engineering, HKU and the Geotechnical Division of the Hong Kong Institution of Engineers biennially. Financial sponsorship from Victor Li & Associates for this Lumbr Lecture is acknowledged.

8th International Conference on Steel and Aluminium Structures (ICSAS)

The 8th International Conference on Steel and Aluminium Structures (ICSAS) was successfully held from December 7 to 9, 2016 at the Cordis Hotel, Mong Kok. The welcoming address of the conference was delivered by Professor T.S. Andy Hor, Vice-President and Pro-Vice-Chancellor (Research). The conference chairman, Professor Ben Young, delivered the opening address. The conference has attracted 152 papers from 29 countries and 6 continents. Over 170 participants attended this conference. The sponsorship from Wo Lee Steel Co. Ltd. is gratefully acknowledged.

In the past 30 years for this conference series, 7 international conferences were held in Kuching, Malaysia (2011), Oxford, UK (2007), Sydney, Australia (2003), Helsiniki, Finland (1999), Istanbul, Turkey (1995), Singapore (1991), and Cardiff, UK (1987). This conference series is considered the principal showcase for steel and aluminium structures and one of the prime international forums for discussion of research, development and applications in the field.

International Geotechnics Symposium cum International Meeting of CSRME 14th Biennial National Congress

The International Geotechnics Symposium cum International Meeting of CSRME 14th Biennial National Congress (IGS cum IMCSRME) was successfully held from December 14 to 17, 2016 at HKU’s main campus. The welcoming speeches of the conference were delivered by both Professor F.T.K. Au, Acting Dean of HKU’s Faculty of Engineering, and Professor Qi-hu Qian, President of Chinese Society for Rock Mechanics and Engineering (CSRME) and Fellow of Chinese Academy of Engineering. The opening speech was delivered by Professor C.F. Lee, Chancellor of the Chu Chi College of Higher Education.

The theme was the Causes, Mechanisms and Prevention of Disastrous Soil & Rock Failures. Eleven world-renowned experts were invited and delivered the keynote lectures. They included Professor Herbert H. Einstein of Massachusetts Institute of Technology, Professor Nick Barton of NB&J, and Professor A. Patrick S. Selvadurai of McGill University. Twenty-two authors were invited to deliver the theme lectures and 44 authors gave oral presentations. The presentations covered four specific subjects. They were a) Rock Cavern and Tunnel Engineering, b) Slope Stability and Landslides, c) Geo-environmental Mechanics and Engineering, and d) Mechanism of Soil and Rock Failures. Their latest research and developments was presented, discussed and exchanged in seven plenary sessions and five parallel sessions.

More than 140 delegates and speakers participated in the Symposium. They came from more than 70 organizations and 40 cities in Canada, China, France, Germany, Indonesia, Japan, Malaysia, Norway, Singapore, and USA. Financial supports from both the Chinese Academy of Sciences’ Institute of Rock and Soil Mechanics and the China Three Gorges University are gratefully acknowledged. The in-kind support from the Geotechnical Division of the Hong Kong Institution of Engineers, the Hong
Kong Geotechnical Society, and China Harbour Engineering Co., Ltd. are acknowledged.

Participants at the International Geotechnics Symposium cum International Meeting of CSRME 14th Biennial National Congress.

The Centre for Innovation in Construction and Infrastructure Development (CICID), with special support from Environment Bureau of the HKSAR Government, organised an international seminar entitled "Technology and Innovation for Zero Carbon Building" under the Construction Industry Council (CIC) funded project "Hong Kong Zero Carbon Partnership" at HKU on December 14, 2016. On the day around 220 professionals from government, industry, institutions and academia engaged with a blend of speakers from the UK, US, Australia, Germany, Singapore as well as locally. Through the seminar, state-of-the-art technology and innovation for low or zero carbon buildings, were shared and the event enabled a continuous dialogue on the journey towards zero carbon and sustainability.

Visit of Hong Kong and Macao Affairs Office of the Ministry of Environmental Protection of P.R.C.

A group of five people, led by Professor Huang Runqiu, Vice Minister of the Ministry of Environmental Protection of the People’s Republic of China, visited HKU on September 20, 2016 and had a meeting with teachers of the Department of Civil Engineering in the morning.

During the meeting, Professor X.Y. Li introduced Professor Huang and his visiting team about the HKU’s research on water and waste water treatment. Professor Z.Q. Yue briefed them about HKU’s research on prevention and mitigation of landslide hazards over the past 60 years. Both parties discussed the possibilities for future research collaboration. Professor Huang expressed the needs of his Ministry on readily applicable techniques for environmental protection in Mainland China.

CICID also organised a strategic workshop as part of the CIC-funded project "Hong Kong Zero Carbon Partnership" at HKU on the same day. At the workshop over 60 professionals from government, industry, institutions and academia as well as invited experts from the UK, US, Australia, Germany, Singapore discussed on the major challenges to delivering zero carbon buildings in Hong Kong and what and how technology and innovation would help address the challenges, and also looked ahead of the role of the Hong Kong Zero Carbon Partnership in the transformation of the built environment towards zero carbon.
Students from Zhejiang University

Ten undergraduate and postgraduate students from Zhejiang University, China have visited our Department on February 23, 2017. During this visit, Professor S.C. Wong and Dr. J. Yang introduced the Department, and a tour of laboratories and campus was also arranged. Our current research postgraduate students joined during lunch to welcome the guests and share their views and experiences. There was also an exchange session with Civil Engineering Society.

Activities

Dr. S.D.N. Lourenço delivered two seminars entitled ‘Synthetic water repellent soils’ at the Nanyang Technological University (Singapore) and Huazhong University of Science and Technology in September and December 2016, respectively.

Dr. W. Pan delivered an Invited Speech at the HKU CETL Join-the Conversation Event “Excellence in Teaching Workshop – How Harvard Teaches and Innovates”, which was entitled “Integrated Project-Based Learning for Higher Education of Sustainable Development of the Built Environment” on December 16, 2016.

Dr. J. Yang visited Shanghai Jiao Tong University (SJTU), Southeast University and East China Jiao Tong University in late December 2016 in the framework of an NSFC Academic Collaboration Award and a SJTU Distinguished Visiting Professorship. He also delivered an invited talk entitled “Static Liquefaction and Flow Failure of Sand: Several New Findings” at the International Symposium on Disaster Prevention and Mitigation at Southeast University on December 23, 2016.
News

Dr. W. Pan

• was appointed as a member of the Construction Workers Registration Board of the Construction Industry Council for a two-year term from January 1, 2017.
• was appointed as a member of Editorial Panel for Proceedings of the Institution of Civil Engineers - Engineering Sustainability from February 2017.

Professor S.C. Wong

• was appointed as a Member of the Advisory Council on the Environment, The Government of HKSAR, from January 1, 2017 to December 31, 2018.
• was appointed as a Member of the Advisory Committee on Post-service Employment of Civil Servants, The Government of HKSAR, from September 1, 2016 to August 31, 2018.
• was reappointed as a member of the Construction Industry Council for two years with effect from February 1, 2017.
• was reappointed as a Member of the Development Committee of the West Kowloon Cultural District Authority from January 1 to December 31, 2017.
• was elected as a Council Member of the Chartered Institute of Logistics and Transport in Hong Kong for two years with effect from October 1, 2016.
• was appointed as a Member of Education and Examinations Committee, Member of Continuing Professional Development Committee, Deputy Chairman of Logistics and Transportation Discipline Advisory Panel, and Member of Civil Discipline Advisory Panel of the Hong Kong Institution of Engineers for the term 2016-2017.

Teacher Quarter of Daping Primary School

Four Civil Engineering students visited Daping Primary School to supervise the construction works in September 2016. The contractor had demolished the existing abandoned kitchen for the new teacher dormitory, and was excavating for the foundation. The students measured the size of foundation casted and checked the quality of construction materials, including bricks, aggregates, and reinforcement bars. They took some samples back to Structural Laboratory of HKU for testing.

From October 8 to 10, 2016, Professor L.G. Tham and Professor C.K. Mak led six students to Daping. The foundation of teacher dormitory was completed. The contractor started building the brick walls of the first floor. The students discussed with Engineer Luk, the person-in-charge at the construction site, and resolved some design problems after consulting with the structural designer and the architects.

Updates on 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. It has 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. 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, please contact Dr. C.P. Wong at cpwryan@hku.hk (for projects) or Dr. K.H. Law at adalaw@hku.hk (for communications).
Repairing and Rebuilding Tengchuen Bridge

During the visit in early October 2016, students paid a visit to three collapsed bridges in Wondong. According to the urgent needs of the local villagers, Tengchuen Bridge was selected as the next potential Mingde Project. In January 2017, ten students visited Tengchuen again to conduct land surveying of the broken bridge and its surrounding area. Dr. Yu and two postgraduate students from South China University of Technology joined the visit trip with us. All the students were divided into four teams for measuring the length and width of Tengchuen Bridge, accounting the level differences of each span along the bridge decks to inspect the deflection, measuring the tilting angles of the bridge piers, as well as taking aerial photos. They had an opportunity to chat with the villagers to understand their expectations on the bridge design. The students are now working on the feasibility study report and preparing various design schemes that are both structurally feasible and financially viable to repair and rebuild it.

According to the land surveying results, three piers in the middle were damaged.

Kindergarten in Daping Primary School, Guigang

The first visit trip to Guigang was arranged from October 20 to 23, 2016. 18 students from HKU (led by Dr. K. Shih, Dr. Y.P. Huang, and Ms. Anila Ma) and 12 students from South China University of Technology (led by Dr. Jing Li) participated to conduct feasibility studies for Duling Primary School and Changcheng Primary School. They conducted face-to-face interview surveys with the school principals and local villagers, and undertook land surveying to measure the size of concerned areas. After the study trip, the students prepared two reports for selecting the project with a higher priority for improvement. Duling Primary School was selected and was recommended renovating the existing teaching block and building a new kindergarten for nursery education.

Name of students joined the site visits for various projects:

September 24-26, 2016 (Daping):
MOK Ming Fai Jimmy, CHAN Chau Wong Andy, WONG Kwun Hei Calvin, CHEUNG Hok Hon

October 8-10, 2016 (Daping and Tengchuen):
HUI Wai Ying Jennifer, LAI Wai Yan Janice, LEUNG Chin Hei Perry, MOK Kwun Yin Myron, PANG So Ming Apple, TAI Ho Ting Louis

October 10-23, 2016 (Daping):
CHAN Lik Ho Nickle, CHEUNG Hok Hon Denis, KONG Yuk Yin Zoe, KOT Yiu Kwan Anson, LAW King Ho Owen, LEUNG Chiu Ho Jerry, MOK Ming Fai Jimmy, SIN Chak Wa Steven, SIU Han Nette, WONG Kwun Hei Calvin, LO Kwun Yu Leo

October 20-23, 2016 (Guigang):
CHAN Chau Wong Andy, KIU Ling Ho, LAM Ho Tung, LAM Man Sum, LAM Tak Po, LAU Chi Yeung, LEE Fu Kuen, LUI Cheuk Him, NGAI Kin Hang Andrew, POON Chee Tou Calvin, SHUM Pui Ying, TSE Hoi Yan Vicky, WONG Chun Sing, WONG Shek Wan, YEUNG Bozco Yik Chun, CHEUNG Wing Tung (Surveying), SIT Yi Lam Kathy (Surveying), WONG Chi Shun Jason (Mechanical)
Student Awards

Ms. Bao Man, Ms. Chen Shimeng, Mr. Li Chenggong, Ms. Xu Han, Ms. Zhang Bei and Mr. Zhu Hejian (June 2016 Grad) were awarded the Ms Chu Yuk Baw Prize in Civil Engineering (Capstone Design Project).

Mr. Chan Pui Hei (CivE 3 2016-17), Miss Chan Wing Lam (CivE 4 2016-17), Ms Cheung Chin (CivE 2 2016-17), Mr. Kot Yiu Kwan (CivE 3 2016-17), Mr. Lam To Lun Jeffrey (CivE 2 2016-17), Mr. Leung Shun Hei (CivE 2 2016-17), Mr. Ngai Kin Hang Andrew (CivE 2 2016-17) and Mr. Wong Tung Ngai (CivE 3 2016-17) were awarded the YS and Christabel Lung Undergraduate Scholarship for Engineering Students (Renewal).

Miss Chan Wing Lam (CivE 4 2016-17) and Mr. Li Hin Wai (CivE 3 2016-17) were awarded the Young Tsun Dart Scholarship (Renewal in 2016-17).

Mr. Chau Yiu Lun (CivE 4 2016-17) was awarded the Tai Tung-Ngok Prize in Civil Engineering 2015-16.

Mr. Chung Fuk Chun (CivE 4 2016-17) was awarded the HK Cheng Prize in Civil Engineering 2015-16.

Mr. Fei Fan (CivE 3 2016-17) was awarded the CL Tse Prize in Civil Engineering.

Mr. Gao Mingyuan (CivE 2 2016-17) was awarded the Walter Brown Memorial Prizes in Mathematics 2015-16.

Mr. Lam Chun Tung (Grad June 2016) was awarded the HKIE Geotechnical Division Prize Competition on AECOM for Best Final Year Geotechnical Project 2016. His supervisor was Professor Z.Q. Yue.

Mr. Lau Chi Hin (June 2016 Grad) was awarded the Ms Chu Yuk Baw Prize in Structural Engineering.

Mr. Leung Shun Hei (CivE 2 2016-17), Mr. Li Yat Sing (CivE 3 2016-17), Mr. Mok Kwan Yin (CivE 2 2016-17) and Mr. Wong Cho Fung (CivE 3 2016-17) were awarded the HKIE Engineering Alumni Association Scholarship 2016-17.

Mr. Liang Jiashao (June 2016 Grad) was awarded the Ms Chu Yuk Baw Prize in Civil Engineering (Final Year Project).

Mr. Ma Guoqin (CivE 4 2016-17) was awarded the Gammon Construction Limited Prize in Civil Engineering 2015-16.

Mr. Mak Chung Man (June 2016 Grad) was awarded the Wing Lung Bank Ltd Prize in Civil Engineering 2015-16 and the HKIE Geotechnical Division Prize on AECOM Prize for Best Student of the Year 2016.

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Your gift – of any amount – will make a difference to the students in the Department of Civil Engineering

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Thank you for your gift!
Mr. Ng Tsz Wai Jason (CivE 3 2016-17) was awarded the HKIE Scholarship, the Edward Keller Achievement Award in Civil Engineering 2015-16 and the Ho Iu Kwong Prize in Civil Engineering 2015-16.

Mr. Wong Tung Ngai (CivE 3 2016-17) was awarded the CMA & Donors Scholarship 2016-17.

Ms. Xu Tianyi (June 2016 Grad) was awarded the Civil Engineering Project Prize 2015-16.

Mr. Zhu Hejian (June 2016 Grad) was awarded the Chow Che King Prize 2015-16.

Mackey (Taikoo Professor) established the course recognised by the Institution of Civil Engineers (U.K.). He introduced the first main frame computer IBM 1620 for Hong Kong and for the department. International Business Machines was one of the biggest computer firms. Also in association with Dr. John J. Raftery who later became a professor of computing sciences. Mr. Peter Lumb introduced soil mechanics who later also became professor.

Ragging of new students at the residential hostels was fun, but could be disastrous. Social gatherings and annual balls were popular. Pop music, teenage and sumba and twist disco dances were popular.

Professor S.Y. King of the Electrical Engineering Department joked and laughed if a boy student had a date with a girl that will be most wonderful and forgot about the studies for the time being.

Young persons all over the world carry on the banners of human beings, multicultural and multiracial for peace, developments and prosperity.

All the blessings and best wishes!

Sharing from Alumni - Mr. Chu Sau Kong Clifford

I am a 1965 graduate in Civil Engineering and did a M.Sc. by research in 1968. The Department was housed in Duncan Sloss Building across the road in Pokfulam. Professor Sean

To view the electronic version of this Newsletter, please visit our Department website on [http://www.civil.hku.hk](http://www.civil.hku.hk), or if you prefer to receive the electronic version of this Newsletter by email, please send notification to [civdept@hku.hk](mailto:civdept@hku.hk).

**Department of Civil Engineering**
**The University of Hong Kong**
Tel: (852) 2859 8024 Email: [civdept@hku.hk](mailto:civdept@hku.hk)
Fax: (852) 2559 5337 [http://www.civil.hku.hk](http://www.civil.hku.hk/

**Editors:**
Dr. T.F.M. Chui
Dr. S.D.N. Lourenço

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