On 8 June 2012, our Department of Civil and Environmental Engineering celebrated its 20th anniversary with a technical seminar and a Chinese-style dinner which were organized by the Civil and Environmental Engineering Alumni Association (CEEAA). Both events were well attended.

The seminar on the topic of “Hong Kong-Zhuhai-Macau Bridge and Related Infrastructure Projects” was held on campus at HKUST. In the seminar, Ir. CHOW Chun Wah of Highways Department of HKSAR, Ir. Ian CHUNG of AECOM Asia Limited, and Dr. Daman LEE of Ove Arup & Partners Hong Kong Limited were invited to share their valuable experiences in this mega project in Hong Kong.

On that night, over 300 guests, faculty and alumni joined the celebration dinner in Tsim Sha Tsui. At the beginning of dinner, Department Head Prof. Christopher LEUNG welcomed all the participants and said, “Our alumni become increasingly prominent in the profession, and I am hoping that they can serve as our liaison to the industry. By bringing our attention to industrial challenges which often require innovative solutions, they can facilitate the transfer of university research to professional practice. With all of us working together and striving for continued excellence, I am sure the Department will go stronger and stronger in the years to come.”

Then, the Guest of Honor Dr. Eden Woon, Vice President for Institutional Advancement at HKUST, congratulated the 20th anniversary of the Department of Civil and Environmental Engineering and said, “This dinner event is the largest alumni gathering in this university I have ever joined!”

Prof. LEUNG also took this opportunity to present the Outstanding Alumni Award 2012 to Dr. Morgan YANG, who is currently working in AECOM as the Director of Operations, China. The Outstanding Alumni Award was newly established by the Department to recognize professional achievements of the alumni who graduated from the undergraduate or the post-graduate program of the Department. Dr. Morgan YANG, the first recipient of the Award, obtained his PhD degree in Civil and Structural Engineering from HKUST in 1996 and was the Department’s first PhD graduate. He has designed numerous mega projects including the Chongming Yangtze River Tunnel (the largest tunnel-boring machine tunnel in the world) and the Sutong Bridge (the longest cable-stayed bridge).
We know that you are one of the alumni who studied at the department in early years. Would you tell us something more? How was your school life at HKUST?

I was admitted to the university in 1993, which was the second batch of undergraduate students in our department. There were only 40+ and 60+ students in the first batch and in my year, respectively. By that time, the total number of PGs, staffs and faculty members would not be more than 30. We were so close with each others. After graduating in 1996, I stayed as a full time research student and subsequently obtained my MPhil and PhD degrees in 1999 and 2003, respectively. I am perhaps the first one in the department who was awarded all three degrees. I was then luckily to have an opportunity to work as a Course Instructor as well as a Post-doctoral Fellow for the department. Leaving HKUST in Feb 2005, which is amazing that I have been there for 12 years, I grew with the university.

My school life was always busy. By that time, HKUST was already famous by its heavy workload (assignments, quizzes, mid-term examinations, etc) – current students must have a strong feeling on that. Yet my extra-curricular activities had never stopped. I was involved in residential hall and civil society’s committee services. Busy, but I enjoyed. My service as the Hall Tutor of PGII enriched my U-life. Thank to Prof. Neil Mickleborough – who appointed me as the Hall Tutor in his capacity of Hall Warden of PGII. Welcome back Neil – who is now with HKUST again after his endeavor in various interesting cities in the past decade.

Why did you continue your study for MPhil and PhD at HKUST?

I love teaching and doing research – which are the primary reasons for me to continue my study. Teaching – it is always fascinating to pass what you have learnt to the next generation. By doing so, civilization continues; knowledge evolutes; and to me this is the philosophical meaning of life. HKUST – though was a newly established university back in the 90’s, has already shown tremendous potential. The department has enthusiastic professors who had guided me through my research journey. The department has excellent technical staffs who provided superb assistance to realize my research ideas. I absolutely made the right choice.

How did your study at HKUST help your career (at academia)?

The department provides very solid training on basic theories, which I consider extremely important for not just academia but also practicing engineers. As an academia, you have much freedom to have crazy ideas. Yet, never forget the fundamentals. As a practicing engineer, most of the time you have cook books (design manuals, code of practice, etc) to follow. However, never forget the reasons why that particular formula/guideline was adopted. An all round understanding of basic theories is of prime importance. It allows one to quickly adapt to new job duties in different countries, different projects, and different disciplines.

Chanice is always the sunshine of my wife and me.
We know that you are quite active in this profession. Do you have something to share with us?

I have always been proactive. It’s in my genes. Besides my international commitments, now I am working as committee members of various local professional societies, including the Geotechnical Division of HKIE, American Society of Civil Engineers (Hong Kong Section), Association of Geotechnical and Geoenviromental Specialists (HK), China Hong Kong Society for Trenchless Technology, etc. Besides, I am also committee members of our Civil Alumni Associations (both the UG and the PG one). I learn a lot through the interactions with people, both local and overseas, from academia to practicing engineers, from consultants, contractors to governments. Their various backgrounds and expertise greatly widen my horizons. Recently I am happy to see more and more our civil alumni actively participating in these committees. By doing so, we serve and contribute to Hong Kong society; we honor our alma mater.

Sharing about your involvement in CEE alumni association and alumni matters?

I participated in alumni committee from 2002 onwards. We managed to have some seminars and alumni home coming dinners which had received very promising responses. The home coming dinner offers a golden opportunity for graduates from different years to meet and chat. It also gives us a chance to talk to the professors in a very casual manner. I am particularly grateful that more young alumni are willing to take up active roles in the committee. New blood brings freshness to the group. The association is so energetic now. We shall all stay tuned for the coming activities.

Any advice to fresh CIVL UG and PG students / graduates?

Plan ahead and be proactive. Opportunities are only for people who are well-prepared. So planning ahead is extremely important; no matter what you want to continue your study or to work in the industry. After planning, you work hard. The goal will be achieved when the right time comes. Be proactive – a proactive and helpful person is always welcome. Civil engineering is a team work. Good interpersonal skills help one to success.

With the Hong Kong’s university system changed from a 3-year to 4-year system that is officially effective in 2012, the departments and faculty members are ready for the change with a few years of preparation. The key challenge in this transition is the “customizing” of the new 4-year curriculum that aims to make the student not only excel in their major, but to offer some flexibility to suit their interest. The admission changes from department-based to school-based.

The total credit contained in the CIVL curriculum is 126 throughout eight semesters in four years. In the first year, students need to take 24 credits of the courses which are the foundation of engineering, such as general physics, chemistry, and mathematics. Major selection is performed after the second semester of the first year. In the second year, students successfully admitted to Civil-major are required to take those so-called “CIVL Fundamentals” courses, including Mechanics of Materials as for structural engineering, Fluid Mechanics as for hydraulics engineering, Modeling System with Uncertainty as for engineering statistics and probability, and Infrastructure Systems Engineering and Management as for transportation and construction management.

In the third year, Civil-major students will take the so-called “Area Courses,” which are more specific courses that are critical to preparing them to excel in civil engineering. Moreover, the courses are more diversified with, for example, Geotechnical Engineering and Construction Management. In the final year, students will take the “Specialty Electives” from a pool of over 20 courses in any of a civil-engineering area, along with the Final Year Project and Capstone Design Project. The “Specialty Elective” can offer students the flexibility to enhance their knowledge in a specific area suiting their interest the most. The two projects can provide students with the opportunity to apply what they have learned to a case study or to an independent research. The CIEV curriculum is similar to the CIVL curriculum, but CIEV-major students are required to take three “Specialty Electives” all related to environmental engineering.

Last but not the least, before graduation students need to take a few university core courses to provide students with a broad knowledge in science, business management, communication, social science and humanities, etc. Minor and enrichment programs are also provided as optional, as shown below.

### Engineering Curriculum

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<th>Year 1</th>
<th>Year 2 &amp; 3</th>
<th>Year 4</th>
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<td><em>Major Foundation and Core Courses</em></td>
<td><em>In-depth Specialty Courses</em></td>
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# Mathematics, Sciences, Computing, Technical Communication
* Undergraduate Research Opportunities Program
In the last issue of newsletter, Prof. Hu has shared with us part of his vintage toys collection. Prof. Hu’s collection consists of 4 categories: (1) Chogokin (超合金), (2) Jumbo Machinder (2-ft tall polyethylene figures), (3) model kits (Bandai), and (4) others. The first two were presented last time while the last two will be introduced in this newsletter.

(3) Model Kits (Bandai)
Serious collectors only consider model kits that have never been assembled, and kept in so-called “mint-in-box” (MIB) condition. Their appetite is often hard to please, since model kits from decades ago are expected to have been assembled, played with, damaged or even lost after so many years. Assembled model kits may be sold at no more than 20% of the MIB price.

The Gorangers with their motorcycles and planes

A hard-to-find item: the boxset model kit (lower left).

If assembled, they would look like what’s shown below.

Fighter jets from Getta Robot, Mazinger and Gatchaman (retro versions)
The Danguard Ace is probably the rarest item among my model collection. However, it was partly assembled when I bought it. Since I do not consider myself a serious collector, I have included many non-MIB items in my collection. That does not bother me, since I have no plans to re-sell any of them, and in fact I plan to assemble all my models someday if I can find the time.

Raydeen, Mazinger Great and Getta 1

The Danguard Ace series

The Grendizer series

(4) Others

As seen above, many model kits in the old days were made by Bandai, which is still one of the most prominent toy manufacturers today. It is interesting to note that there were a few other non-mainstream companies that produced model kits, and some even invented their own characters (such as the one shown below on the right), which never appeared on TV.

Raydeen, Mazinger Great and Getta 1

Some non-Bandai products
Obituary

Obituary for Prof. Wilson Tang, Our Former Department Head from 1996-2002 - Jan 2012

Prof. Wilson H. Tang, Head of Civil Engineering at HKUST from 1996 to 2002, passed away in the company of his loving family in Chicago on January 5, 2012 at the age of 68.

Born in Hong Kong, Prof. Tang pursued further studies in the US after completing his high school education at La Salle College. He earned his Bachelors (1966) and Masters (1967) from the Massachusetts Institute of Technology, and completed his Doctorate from Stanford University (1969), all in Civil Engineering. He taught at the University of Illinois at Urbana-Champaign for 27 years before joining the Hong Kong University of Science and Technology as Chair Professor and Head of the Department of Civil Engineering in 1996. Under his leadership, the department evolved into one of the best in Asia. Prof. Tang loved his students, and had mentored numerous graduate students and younger colleagues at both universities. He retired in 2009, but remained active in research, teaching and public service.

Prof. Tang had a distinguished academic career in which he made significant contributions in the areas of safety and reliability analysis in civil engineering. He had led the profession in promoting and pioneering the use of reliability-based methods for risk mitigation and design in various areas, particularly in geotechnical engineering. His expertise covered application of probability methods to the wide area of civil infrastructure engineering and management. He had more than 250 technical publications and his co-authored book (with A. H-S Ang) on Probability Concepts in Engineering Planning & Design, revised in 2007, has been widely adopted by top universities worldwide. The book has also been translated into five languages, including Japanese and Korean, and the Chinese translation is currently in progress.

Prof. Tang led and served on several major international boards and committees, including local professional societies and government boards. Being a well-recognized leader in his field, he has received numerous awards and honors including the State of the Art award, Fellow and Distinguished Member from the American Society of Civil Engineers, T.K. Hsieh Award from the Institution of Civil Engineers U.K., U.S. Offshore Energy Center’s Hall of Fame, Guggenheim Fellow, Harza Best Paper Award, Natural Science Award from the Ministry of Education of China, Fellow and Vice President of the Hong Kong Academy of Engineering Sciences, and Honorary Professorship at several major universities. A prestigious keynote lecture, the Wilson Tang Lecture, of the serial conferences of International Symposium on Geotechnical Safety & Risk, was inaugurated in 2009 to recognize and honor his significant contributions.

Over the past year, while courageously battling with his illness, Prof. Tang never stopped his research and teaching activities. He has carried out research collaboration and lectured at Tongji University in Shanghai for a couple of months. While in Hong Kong, he came back to HKUST several times a week to continue his research work. Even before leaving for Chicago last November, he was discussing with colleagues about new directions in geotechnical risk assessment. In Prof. Tang, we see a most devoted researcher and an extremely strong human being, with a passion for his work and his life. Prof. Tang has left us, but the Department will always remember him as a great person whom we all aspire to follow.

Prof. Tang is survived by his wife of 42 years, Bernadette, a son and daughter-in-law, Tze-John and Ann; a daughter and son-in-law, Joyce and Michael; and three grandchildren.

Obituary for Prof. Shen, our founding Department Head from 1991 – 1995 - Jul 2012

Prof. Chih-Kang Shen, the founding Head of Civil Engineering at HKUST, passed away peacefully surrounded by his loving family on July 17, 2012 at home in Davis, California, aged 79. Many of us in the Department remember, with great respect, those early days when Prof. Shen was entrusted with establishing this Department. His vision, wisdom and devotion laid down the high standard and fine tradition the Department is always proud of.

Prof. Shen earned his B.S., M.S. and Ph.D degrees in 1956, 1960, and 1965 from the National Taiwan University, the University of New Hampshire and the University of California at Berkeley, respectively, all in Civil Engineering. In 1967, he joined the faculty of the Department of Civil Engineering at the University of California, Davis. In his 24-year career there, he served as Assistant, Associate and Full Professor and then the Department Chair.

Prof. Shen retired from Davis in 1991 to join the founding faculty at HKUST and establish the Department of Civil and Structural Engineering. During his tenure as the Department Head from 1991 to 1995, he assembled a top quality faculty and shaped the Department into a highly visible academic unit envied by many Civil Engineering departments around the world. Under his leadership, a novel broad base curriculum to train future generation of civil engineers was successfully developed and followed throughout the years. As a founding member of HKUST, Prof. Shen also chaired and served many important committees, including the Committee on University Governance, the Senate Research Committee and the University Academic and Substantiation Committee. Carrying his magnificent accomplishment in Hong Kong, Prof. Shen retired from HKUST and returned to his home in Davis in 1998.

Prof. Shen had an outstanding academic career. He spent most of his academic years investigating soil mechanics and foundation engineering and was the author of many articles in Geotechnical journals and conference proceedings. His pioneering work with Kenneth Lee on horizontal movements related to subsidence earned him the 1970 ASCE Collingwood Prize. As a veteran in the field, Prof. Shen was routinely invited as keynote speaker, guest speaker, chairperson and panellist in various international professional events. Prof. Shen’s enthusiasm toward his field of study lasted throughout his life. Even less than one year before his death while he was already suffering illness, he continued to show great interest on fundamental soil mechanics issues through his discussions with a former student.

Apart from his role as an academic leader in research and education, Prof. Shen also made remarkable contributions to professional services. In Hong Kong specifically, he chaired the Geotechnical Division of the HKIE, HKIE’s Working Party on Soil Nailing as well as the HKIE accreditation team for reviewing the Civil and related program at the HK Polytechnic University. In his rich and colourful career, Prof. Shen also provided invaluable consultancy services to many key government agencies such as California Department of Transportation, California Department of Water Resources, U.S. Navel Civil Engineering Laboratory, U.S. Corp of Engineers, and Geotechnical Engineering Office of Hong Kong.

Prof. Shen has left us, but we all cherish the memories of him. We will always remember him as a person of great integrity and wisdom who founded and nurtured this department with a deep affection.

Prof. Shen is survived by his wife Mamie, his daughter and son-in-law, Carol Sato and her husband Mark, and two grandchildren, Matthew and Trevor Sato. He was preceded in death by his daughter Elaine who passed away in 1988 following her Junior year in Materials Science at U.C. Berkeley.
News

Prof. Hai Yang received prestigious State Natural Science Awards

Prof. Hai Yang and his collaborators received the most prestigious awards in science and technology in China - State Natural Science Awards (second-class) bestowed by the State Council of the People’s Republic of China. The team made significant contributions to advancing the understanding and numerical analysis of spatial-temporal features of urban traffic flow distribution that has far-reaching impact on transportation theories and practices. They successfully developed advanced traffic theories that are particularly relevant to cities in Mainland China and to the development of interdisciplinary research in China.

Prof. Irene Lo and her former PhD student, Prof. Kelvin Ng received 2012 ASCE Best Practice-Oriented Paper Award

The Best Practice-Oriented Paper for all ASCE EWRI Journals is selected by the Associate Editors. The associate editors select paper based on nominations, with additional input based on high scores by reviewers.

Prof. J S Kuang was re-elected as President of the International Society for Computing in Civil and Building Engineering (ISCCBE)

Prof. J S Kuang was elected as President of ISCCBE in Nottingham, UK, in 2010 succeeding Prof. Karl Beucke of Germany. ISCCBE is one of the world’s leading international professional societies in civil, construction and structural engineering. It consists of numerous member countries/regions worldwide including Australia, Canada, China, Finland, Germany, Hong Kong, Japan, Russia, Singapore, Switzerland, South Korea, Taiwan, UAE, UK, and US.

Ir Dr Andrew Chan, Adjunct Professor of our Department, was elected as Fellow of the Royal Academy of Engineering, United Kingdom

Besides being elected as Fellow of the Royal Academy of Engineering in UK, Ir Dr Andrew Chan also received the Bronze Bauhinia Star (BBS) in 2012 for his outstanding service to Hong Kong over an extended period of time.

Prof Guanghao Chen to Lead the Largest ITF-funded Project in Environmental Field in Hong Kong

Prof Guanghao Chen has received HK$ 15.375 million from the Innovation and Technology Fund (ITF) of the Hong Kong Government, and HK$ 2.65 million from industrial sponsors for his project titled “Large-scale Study on Realization and Application of SANI Process in Sewage Treatment in Hong Kong”. Totaling HK$ 24.525 million, this project is not only the biggest ITF-funded project in the environmental field in Hong Kong, but also the first large-scale project of ITF involving close collaboration among university, government and industry.

ASCE International Student Group received Letter of Honorable Mention from ASCE Headquarters – May 2012

American Society of Civil Engineers International Student Group, Department of Civil and Environmental Engineering at HKUST (ASCEISG, HKUSTCE) has been selected by the Committee on Student Activities of ASCE Headquarters to receive a Letter of Honorable Mention for its outstanding activities in 2011. The letter praised the enthusiasm and hard work of the student officers and members, as well as fine guidance of the faculty advisor and practitioner advisor. The Group was formed in 2001 and it is the first ASCEISG being formed outside North America.

Our students won Arup Research Prize/Certificate of Merit

Tso Chi-Yan, of the Environmental Engineering Program won the Arup Research Prize in 2012. He works on the development of a composite adsorbent for waste heat powered adsorption cooling system under the supervision of Prof. Christopher Chao. Two other students, Yan Wang-ji and Gao Zhiwei, received the Certificate of Merit for their respective work on wireless structural health monitoring system and fiber reinforced soil.

Mr. Leon H. Lu, a Civil and Environmental Engineering PhD Graduate wins the International Huber Technology Prize 2012

Prof Guanghao Chen won the Global Grand Honor Award for Project Innovation Awards (PIA) in the category of Applied Research by the International Water Association (IWA)

Prof Chen won the global grand PIA Awards, established in 2006, which recognizes innovation and excellence in water engineering projects worldwide. Also, Dr Hui Lu, a PhD graduate of Prof Chen at HKUST, won the 2nd prize of Huber Technology Award at 2012 IFAT ENTSORGA, the world’s leading trade fair for water, sewage, waste, and raw materials management with estimated visitors of 125,000. Dr Lu is the only awardee from Asia.
Department’s 20th Anniversary

HKUST has recently launched the Alumni Endowment Fund to encourage the support from our alumni for the education and learning environment at HKUST. Derrick LEUNG, President of the alumni association (CEEAA), represented CEEAA and presented a donation of HK$10,000 from CEEAA to Dr. Eden Woon in the dinner.

In the 20th anniversary celebration dinner, industry professionals, professors, staff, alumni and students gathered together and enjoyed the event a lot. Many of them met their old friends and caught up with each other in the dinner gathering. In the coming years, the alumni association will organize more technical and social events to strengthen the bonding among alumni and help build the linkage between HKUST and the engineering society.

For more information about the alumni association (CEEAA), please visit the Facebook page at http://www.facebook.com/groups/hkustceaaa/.

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Share your joys and happiness with your fellow classmates!
Send us photos of your wedding or newborns!