香港中文大學理學院
Faculty of Science, CUHK

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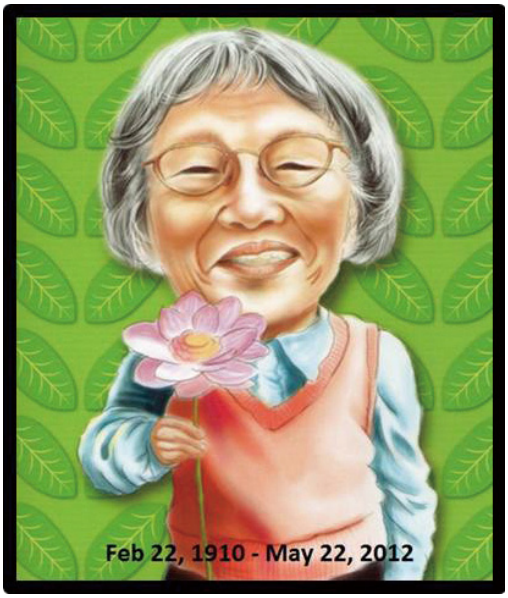
理學院通訊 Newsletter

2012年六月 第45期 Issue 45, June 2012

In Memory of Prof. HU Shiu-ying (1910 - 2012)

Our beloved **Prof. HU Shiu-ying** passed away on 22 May 2012 at the age of 102. Prof. Hu received her B.Sc. from Ginling Women's College (now part of Nanjing Normal University) and M.Sc. from Lingnan University (now part of Sun Yatsen University). After World War II, she went to the US and became the first Chinese woman receiving a Ph.D. in Botany from Harvard University. She then devoted over 30 years as a research botanist in Arnold Arboretum, Harvard University. In 1968, she joined the Department of Biology, CUHK, as a Senior Lecturer and retired in 1975. After retirement, she continued her active research in both the Harvard University Herbaria and CUHK Herbarium. She was a renowned expert in the plant genera of *Ilex* (Aquifoliaceae), *Hemerocallis* (Amaryllidaceae) and *Panax* (Araliaceae), the Chinese families of Orchidaceae, Compositae, and Malvaceae, and Chinese medicinal herbs and food plants. She published over 200 articles and books. Her contributions to plant systematics and economic applications gained her many awards and decorations, including the Bronze Bauhinia Star of the HKSAR Government in 2001 and the CUHK Honorary Fellowship in 2002. She was listed as an "Outstanding Chinese" in the Success Stories Series produced by RTHK in 2003 and one of the top ten Loving Hearts of Hong Kong by ATV in 2010. She will be remembered as a great scholar and botanist with everlasting influence in our mind and heart.



Courtesy: CUHK **School of Life Sciences**

Funeral Arrangements:	
Vigil Service 守靈禮拜	14 June (Thursday), 8:00pm 6月14日（星期四）晚上8時
Funeral Service 安息禮拜	15 June (Friday), 11:30am 6月15日（星期五）早上11時半
Venue 地點	G/F, Universal Funeral Parlour, Hung Hom 紅磡世界殯儀館地下世界堂

On your mark...get set...
Science Faculty to Celebrate 50th Anniversary in 2013!

Our Faculty will be turning 50 in 2013! To mark this momentous occasion, there will be a series of events held, such as a banquet, public lectures, and exhibitions. We welcome all our alumni, current and retired teachers, students, and staff to join in the festivities. Stay tuned for the latest news about our celebrations.

Find us on Facebook

中大理學院50周年院慶
CUHK Science Faculty 50th Anniversary

香港中文大學理學院
Faculty of Science, CUHK

Chemistry Students Garner Top Prize

On Saturday, 25 February 2012, a team of eight Chemistry undergraduates represented our University at the 23rd Hong Kong Chemistry Olympiad (for Tertiary Institutions) and brought home the Top Prize of the competition. The competition was organized by the Hong Kong Chemical Society and the Royal Society of Chemistry, and aimed to promote an interest in Chemistry among young people. This year's theme was "Chemistry for Good Health", and the CUHK team made a presentation on the essential role of chemistry to the discovery and production of pharmaceuticals (namely the drug Tamiflu), beating out teams from five other local universities to claim the top prize. This was the fifth time the Chinese University of Hong Kong had placed top at the Hong Kong Chemistry Olympiad (for Tertiary Institutions). CUHK previously won the first-place in the Hong Kong Chemistry Olympiad in 1993, 1994, 2008 and 2009. This year's gold-medal team from the Department of Chemistry, guided by **Prof. CHAN Man-chor** and **Dr. Kendrew MAK Kin-wah**, comprised of the following students:

(Back row, from left to right) LAM Kam-wing, NG Kui-sang
(Front row, from left to right) Dr. Andrew MAK Kin-wah, Prof. CHAN Man-chor, Gary CHOW Ka-wai, Nicolas CHAN Hoi-wai, ZHANG Mengwen, Ivy POON, IP Ho-wang, LI Ho-chuen, Prof. Kevin LEUNG Wing-por

Presenters	Supporting Team Members
Nicolas CHAN Hoi-wai 陳凱瑋 (Year 2)	IP Ho-wang 葉皓宏 (Year 2)
Gary CHOW Ka-wai 周嘉煒 (Year 2)	LAM Kam-wing 林錦榮 (Year 3)
ZHANG Mengwen 張梦雯 (Year 3)	LI Ho-chuen 李浩泉 (Year 2)
	NG Kui-sang 吳鉅生 (Year 2)
	Ivy POON 潘靜怡 (Year 2)

Prof. Kevin LEUNG Wing-por, also of the Department of Chemistry, sat on the panel of judges as the representative from the University.

Chemistry Undergraduates Publish in International Journal

Three undergraduates and two postgraduates from the Department of Chemistry successfully published a paper in the journal *Tetrahedron Letters*. The student contributors are as follows: **QIAN Ying-ying** (Year 3, MPhil-PhD in CHEM); **WONG Ka-lai** (Year 2, BSc in CHEM); **ZHANG Mengwen** (Year 3, BSc in CHEM); **KWOK Tsz-yiu** (Year 3, BSc in CHEM); and **TO Ching-tat** (Year 2, MPhil-PhD in CHEM). Even though three of the authors are still undergraduate students, their passion for scientific research has given them great motivation to challenge themselves in tackling a research problem. Their research on the synthesis of heterobiaryls could bring us one step closer towards the development of an easier, cheaper, and less toxic production of various drugs and optoelectronic materials.

Qian, Y.Y; Wong, K.L.; Zhang, M.W.; Kwok, T.Y.; To, C.T.; Chan, K.S.* Catalytic C-H arylation of unactivated heteroaromatics with aryl halides by cobalt porphyrin. *Tetrahedron Lett.* **2012**, 53, pp. 1571-1575.

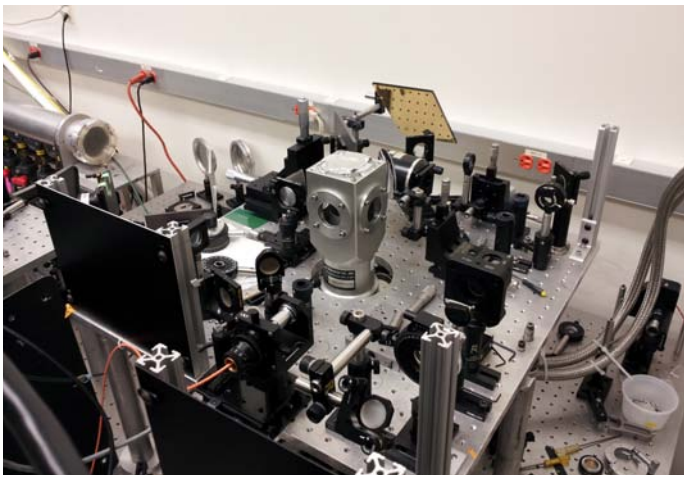
(From left) TO Ching-tat, KWOK Tsz-yiu, WONG Ka-lai, ZHANG Mengwen, QIAN Yingying

Ultra High-speed Internet on the Horizon

Prof. LIU Renbao of the Department of Physics made a key breakthrough towards ultra high-speed optical communication that has potential to speed up the current Internet by 10,000 times. The research findings have been recently published in the prestigious journal *Nature*.

Prof. LIU Renbao

Professor Liu and researchers Ben Zaks and Mark Sherwin at the University of California, Santa Barbara (UCSB) used free electron lasers to irradiate a semiconductor device, and observed THz frequency comb, i.e., modulation of light at one trillion times per second (Tb/s). The observed THz frequency comb is a key element in future optical communication at Tb/s rate.



Experimental setup (photo courtesy of Ben ZAKS)

'If such high-speed communication comes into being, one could transfer a whole quadruple-layer blue-ray disc or an electronic library of one million books in only one second,' Professor Liu commented. This new technology has the potential to transfer data 10,000 times faster than copper cables, on which the current Internet is widely based.

Research Team to Unveil New Page in Cosmology and Astrophysics Research

The Daya Bay Reactor Neutrino Experiment (the Experiment) announced its discovery of a new type of neutrino transformation, opening a gateway to a new understanding of fundamental physics by giving constraints and guidance to the construction of the Grand Unification Theory, in which all fundamental interactions are unified. It may also eventually solve one of the biggest problems in Big Bang cosmology – why there is far more matter than antimatter in the universe today. A research team from The Chinese University of Hong Kong (CUHK) and University of Hong Kong (HKU) has been an active member of the Daya Bay Collaboration since its formation in 2004. The discovery results from eight years of hard work of this multinational collaboration formed by over 200 scientists and engineers from 39 institutes in mainland China, the U.S., Hong Kong, Taiwan, Russia and the Czech Republic.

The Hong Kong team, with **Prof. CHU Ming-chung**, Department of Physics, CUHK as the principal investigator and Prof. John LEUNG and Prof. Jason PUN, Department of Physics, HKU as co-investigators, has designed and built subsystems for detector monitoring, background measurement and data acquisition of the Experiment. The team has also been running experiments in a small underground laboratory in Aberdeen Tunnel to support research and development of the Experiment. Over 40 CUHK Physics students, including many undergraduates, have contributed to the effort.

The results have opened the door to further investigations and will influence the design of future neutrino experiments to determine the most massive type of neutrino, the difference between neutrino and antineutrino oscillations, and to find out why there is more matter than antimatter in the universe, or if there is any matter in the universe at all.

The Daya Bay Collaboration consists of scientists from mainland China, the U.S, Hong Kong, Taiwan, Russia and the Czech Republic.

Science Faculty Research Day 2012

The annual Faculty Research Day will be held on Friday, 29 June 2012. This year's event will once again feature a number of award-winning teachers and postgraduate student, as well as outstanding undergraduate and postgraduate students.

Science Faculty Research Day 2012

"Outstanding Research in Science Faculty"

Date: Friday, 29 June 2012
Time: 9:45am - 5:30pm
Venue: LT3, Lady Shaw Building, CUHK
Website: **http://www.cuhk.edu.hk/sci/researchday/**

Staff News and Honours

Prof. CHAN Ngai-hang, Professor of Statistics, has been awarded the Research Excellence Award 2011-12 for his remarkable accomplishment in research and contribution to the field.


Prof. CHAN Ngai-hang

regarded by his peers and his papers have been cited over 2,000 times (ISI). He has been listed in the ISI Science Citation List of Top 250-Highly Cited Mathematicians in the world since 2004.

Prof. Raymond CHAN Hon-fu of the Department of Mathematics received a first-class award in natural science at the Higher Education Outstanding Scientific Research Output Awards (Science and Technology) from the Ministry of Education (MoE) in 2011. Professor

Prof. Raymond CHAN Hon-fu, Professor, Department of Mathematics, receives his award certificate from Dr. ZHOU Jing.

Chan's award-winning project is "Iterative Solvers for Toeplitz Systems and their Applications", and his techniques and methods have laid down the theoretical foundation and framework for the study of iterative Toeplitz solvers. Professor Chan's research work is highly

Prof. JIANG Liwen of the School of Life Sciences and his collaborators from the Hong Kong Baptist University and Hong Kong University of Science and Technology have been granted a Collaborative Research Fund (CRF) of more than HK$7M for their project "EXPO (Exocyst-positive Organelle): Dynamics, Biogenesis and Function in Plants."


Prof. JIANG Liwen

Also from the School of Life Sciences, **Prof. LAM Hon-ming** and his collaborators from the Hong Kong Baptist University and Hong Kong University have been awarded a CRF for their project "Genomic and Molecular Studies of a Salinity Tolerance Locus in the Wild Soybean Genome." The team has received almost HK$7M worth of research funding.


Prof. LAM Hon-ming
(Photo courtesy: RTHK)

Hearty Congratulations!

Faculty Revving Up for Intake of 3+3+4 Students

Over the past few years, the Science Faculty has been busy preparing for the switch to the four-year curriculum. On Saturday, 14 April 2012, the Faculty held its second annual Academic Counselling for S.5 Students. The programme was held in Lady Shaw Building, and secondary students were introduced to the new *SCIENCE* programme, and to each of the 16 major programmes. More than 300 students came to learn about the various undergraduate programmes of our Faculty.

On 14 April, S5 students were introduced to the *SCIENCE* programme (photo on left) and took the opportunity to look at some information displays and interact with programme representatives (photo above).

On 9-10 May 2012, the Faculty interviewed all applicants who have put *SCIENCE* programme in their Band A choice. More than 2700 applicants came to the interview. They also took the chance to ask questions about the *SCIENCE* programme admissions and curriculum in the consultation sessions chaired by the Science Faculty Associate Deans and Assistant Deans.

The Faculty held the first ever *SCIENCE* programme interviews on 9 and 10 May 2012, and attracted more than 2700 applicants to the event.

The Faculty understands that Broad-based Admission is a new admission scheme, so we have prepared a page of FAQ to help our prospective students gain a better understanding of the scheme. For the FAQ, please refer to the complete page of **FAQ on the Science Faculty website**.

理學院通信 Faculty of Science Newsletter

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