

# Science CUHK 理學院通訊 Newsletter



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## Naming Ceremony of Run Run Shaw Science Building

The Chinese University of Hong Kong is pleased to have named its centralized laboratory building as the Run Run Shaw Science Building. The naming ceremony held on 4 July 2011 was officiated by Dr. Vincent H.C. CHENG, Chairman of the University Council, and Prof. Joseph J.Y. SUNG, Vice-Chancellor of CUHK. The building is named after Dr. the Honourable Run Run Shaw in recognition of his staunch support of and wise counsel to CUHK over the years. The University also thanked Mrs. Mona Shaw, Chairman of The Shaw Foundation Hong Kong Limited, for gracing the naming ceremony with her presence.

The construction of the Run Run Shaw Science Building has boosted the University's research strengths by providing state-of-the-art laboratories and facilities for various scientific research areas. The building brings outstanding researchers and specialists from different



(From left) Mr. Stephen KWOK, representative from The Shaw Foundation Hong Kong Limited; Prof. NG Cheuk-yiu, Dean, Faculty of Science, CUHK; Prof. Joseph J.Y. SUNG; Mrs. Mona SHAW; Dr. Vincent H.C. CHENG; Prof. FOK Tai-fai, Dean, Faculty of Medicine, CUHK; Mr. Raymond CHAN, representative from The Shaw Foundation Hong Kong Limited

fields under one roof and makes possible many top-notch and award-winning research projects.

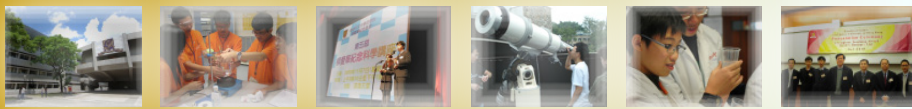
## National Congress on Basic Research and State Key Laboratory Plaque Awarding Ceremony



Chinese State Councilor LIU Yandong awarded the plaque to the Director of State Key Laboratory of Agrobiotechnology (CUHK), Prof. Samuel SUN Sai-ming (5<sup>th</sup> from the right).

On 23 May, Ministry of Science and Technology, Ministry of Education, Chinese Academy of Sciences, Chinese Academy of Engineering and Chinese Natural Science Foundation jointly organized the National Congress on Basic Research in Beijing, in conjunction with the State Key Laboratory (SKL) Plaque Awarding Ceremony for selected SKL representatives. Member of Central Committee of the Communist Party of China and State Councilor Madame LIU Yandong attended the meeting and delivered an important speech. The National Committee of the Chinese People's Political Consultative Conference Vice Chairman and Science and Technology Minister WAN Gang, delivered a work report.





Chinese State Councilor LIU Yandong representing The State Council to deliver an important speech: "Developing Basic Science Research to Support the Establishment of an Innovative Country."

At the meeting, Chinese State Councilor LIU Yandong reviewed the past developments of basic science

research in China, compared and contrasted with the intensive commitment of Chinese Government in the last decade on basic research leading to the significant overall advancement. She proposed to build on a core of innovation with high originality, coupling with effective strategic planning and focused support, so as to create a new facet for prosperous development of innovative basic science research in China.

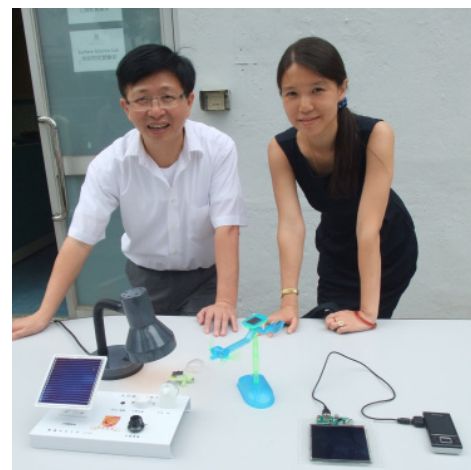
On behalf of the twelve SKLs in Hong Kong and Macau, Director of State Key Laboratory of Agrobiotechnology (CUHK), **Prof. Samuel SUN Sai-ming** (Member of the Chinese Academy of Engineering) was invited to attend the plaque awarding ceremony with Prof. C.M. CHE of Hong Kong University (Member of the Chinese Academy of Sciences) and Prof. Y.T. WONG of University of Macau.

## Taking Strides in Renewable Energy Development with High-Efficiency Thin Film Solar Cell

A research team led by **Prof. XIAO Xudong** and **Prof. LI Quan** of the Department of Physics at The Chinese University of Hong Kong (CUHK) successfully developed Cu(InGa)Se<sub>2</sub> (CIGS) thin film solar cells that feature low production cost, high efficiency and extensive application prospects. Its conversion efficiency of 17% is the highest among the same kind of solar cells in the greater China region and reaches world-class level, representing a great breakthrough in the development of renewable energy. The CIGS solar cell features thin and portable character, stable performance, low fabrication cost and wide applications. It can be installed on roofs and outer walls of buildings in Hong Kong; it can also be integrated into consumer products such as handbags and backpacks for charging electronic products instantly, and be used to power electronic devices for the space industry.

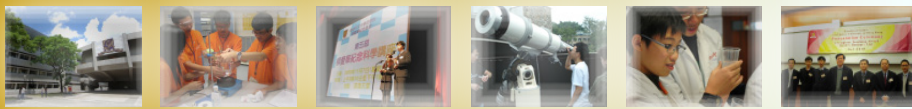
The two-year research project led by Professor Xiao and Professor Li is supported by CUHK, the Innovative Technology Council, the Chinese Academy of Sciences (CAS) and the Shenzhen government. It was conducted in CUHK and the Shenzhen Institute of Advanced Technology, CAS. Professor Xiao and Professor Li said, 'The current solar cell market is dominated by crystalline silicon solar cell with a

market share of 90%, which is also the most popular type being used in Hong Kong. It is forecasted that the market share of thin film solar cell will increase from 10% to 35% in the coming 20 years. Among various types of thin film solar cell, CIGS solar cell has the highest efficiency, comparable to crystalline solar cell, yet 50 times thinner and fabrication costing 50% less. When mass production technology matures and becomes widely adopted, we believe that CIGS will be the most cost competitive solar cell, demonstrating bright market prospects.'



Prof. XIAO Xudong (left) and Prof. LI Quan of the Department of Physics at CUHK demonstrate the application of CIGS thin film solar cells.





## Mushrooms: the Latest Weapon in the Battle against Cancer

In a joint research between **Prof. Peter CHEUNG Chi-keung** of the Biology Programme and Food and Nutritional Science Programme (both of the School of Life Sciences, the CUHK) and Prof. WONG Ka-hing of The Hong Kong Polytechnic University, they discovered that not only does lingzhi (*Ganoderma lucidum*, commonly referred to as reishi mushroom) have anti-cancer effects, but another fungus, *Pleurotus tuber-regium* also looks like a promising anti-cancer candidate. Cheaper and easier to cultivate, *Pleurotus tuber-regium* could become an affordable functional food that treats cancer without any side-effects.

Found in the tropical and subtropical regions like Africa and Southeast Asia, this kind of mushroom has long been used in Nigeria as both food and medicine. It has also been recorded in *Materia Medica* with specific medicinal purposes. The current research has determined that *Pleurotus tuber-regium*, like *Ganoderma lucidum*, is rich in polysaccharides that have immunomodulatory effects and exhibit antitumour activities (Ka-Hing Wong, Connie K.M.

Lai and Peter C.K. Cheung, 2011). Although the exact mechanism of action for these polysaccharides is still to be determined, the recent discovery could lead to a new kind of nutraceutical available at relatively low-cost, benefitting people around the world.



Work Cited:

Ka-Hing Wong, Connie K.M. Lai and Peter C.K. Cheung. (2011). Immunomodulatory activities of mushroom sclerotial polysaccharides. *Food Hydrocolloids*, 25(2): 150-158.

For further details, please click [here](#).

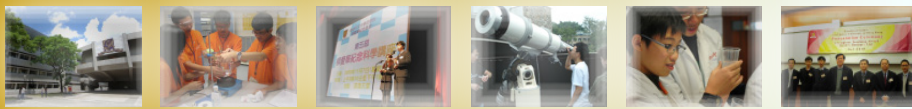
## Second Hong Kong Inter-University Biochemistry Postgraduate Symposium

The 2<sup>nd</sup> Hong Kong Inter-University Biochemistry Postgraduate Symposium was held at The University of Hong Kong on 11 June. This event was jointly organized by The CUHK School of Life Sciences Biochemistry Programme, HKU Department of Biochemistry and HKUST Division of Life Science with an aim to promote inter-institutional and inter-disciplinary communications among postgraduate students and faculty members in the field of Biochemistry and Life Sciences in Hong Kong. Twenty-five postgraduate students from CUHK provided stage and oral presentations. Three students won prizes in the Symposium; **Mr. TSOI Ho** (Biochemistry Programme) was awarded the Stage Presentation Prize, while **Mr. TAM Wing Yip** (Molecular Biotechnology Programme) and **Mr. YU Chi Shing** (Biochemistry Programme) were awarded Poster Presentation Prizes.



A group photo of the organizers, and guest speakers Prof. Ben BERKHOUT (centre) from University of Amsterdam and Prof. Takashi FUJITA (third from right) from Kyoto University.





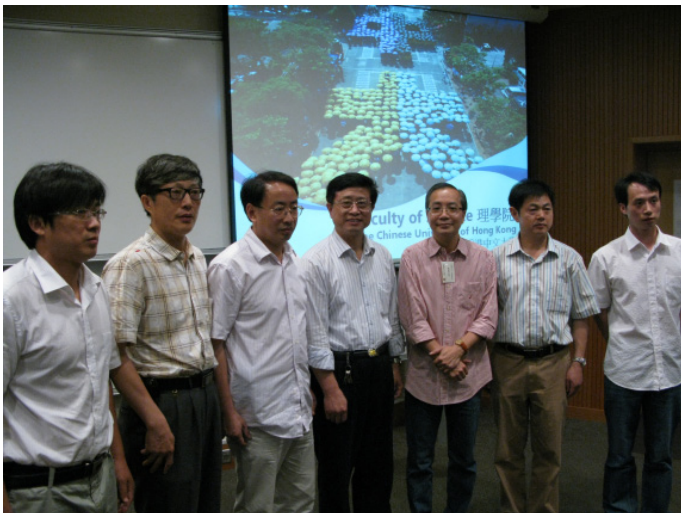
## Visit by Delegation from The University of Shanghai for Science and Technology

On Tuesday, 28 June, the Faculty of Science hosted a visit by a delegation of 8 faculty members and 18 students of The University of Shanghai for Science and Technology (USST). This visit was part of a

five-day fieldtrip to exchange ideas and experience about science education at the tertiary level. **Prof. Dickon H. L. NG** (Associate Dean, Student Affairs) introduced our Faculty and University to the visitors, highlighting the breadth of programmes offered, excellence in research, and all-round development of students.

Following the overview of our Faculty and the University, the delegation toured around various research facilities and laboratories. **Prof. Diane D. J. GUO** of the Biology Programme (School of Life Sciences), **Mr. Andrew S. K. LI** of the Department of Physics, and **Dr. Wing-fat CHAN** of the Department of Chemistry showcased some of the cutting-edge research equipment and facilities of their respective programme and department to the visitors. All in all, the visit successfully promoted an exchange of ideas between our Faculty and the visiting delegation.

For photo highlights of the visit, please click [here](#).



The delegation from the USST - led by Prof. ZHANG Weiguo (centre; Associate Dean, Tin Ka Ping College of Science) - was warmly welcomed and introduced to the Science Faculty by Prof. Dickon H.L. NG (third from right; Associate Dean, Student Affairs).

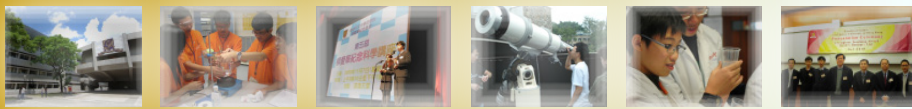
## Retiring Staff Farewell Dinner

Five retiring staff of our Faculty were celebrated with a farewell dinner hosted by the Dean Team on Thursday, 9 June. The five retirees are as follows: **Mr. H. M. KWOK** (Biology Programme, School of Life Sciences), **Mr. C. K. LAU** (Mechanical Services Unit), **Prof. S. Y. LEE** (Department of Statistics), **Mr. K. K. NG** (Department of Chemistry), and **Mr. M. C. WONG** (Department of Chemistry). Although Mr. Ng was unable to join the celebration, the Dean Team, along with **Prof. Norman Woo** (Programme Director, Biology Programme, School of Life Sciences), **Prof. Wu Chi** (Chairman, Department of Chemistry), and **Prof. Ngai-hang CHAN** (Chairman, Department of Statistics), extended their sincere thanks and appreciation to him and the other retiring staff for their dedication to their work at the Faculty. Lastly, the Dean Team wished the retirees all the best as they embark on a new journey in their lives.



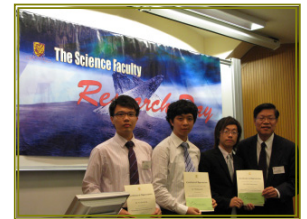
Thank you to retiring staff (front row, from left): Mr. H.M. KWOK (Biology Programme, School of Life Sciences), Prof. S.Y. LEE (Department of Statistics), Mr. C.K. LAU (Mechanical Services Unit), and Mr. M.C. WONG (Department of Chemistry). Mr. K.K. NG (Department of Chemistry) was unable to join the dinner, but his hard work also deserved due recognition.





## Science Faculty Research Day 2011

Our Faculty showcased the latest outstanding research at the annual Faculty Research Day on Thursday, 9 June. This year, the event featured invited talks from award-winning faculty members and students, as well as outstanding research postgraduate. The event attracted over 100 audience members, eager to engage in a meaningful exchange of ideas about the recent progress of science at our Faculty. For full details and photo highlights of the event, please visit the event [website](#).



## Upcoming Event

### Briefing Session:

- ↪ **Broad-based Admission Scheme and its Implementation**
- ↪ **New Curriculum and Faculty Package**

**Date: Friday, 15 July 2011**

**Time: 16:30 - 18:00**

**Venue: SC L1**

**~ All Students and Staff are Welcome! ~**

## 理學院通信 Faculty of Science Newsletter

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