



Science Faculty e-Newsletter



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Scouting a New Journey: Orientation Day 2014

Photo courtesy of Information Services Office



Photo courtesy of School of Life Sciences

Over 55,000 visitors attended CUHK's Orientation Day for Undergraduate Admissions on 18 October 2014. Units of the Science Faculty organized talks, demonstrations, and greeted visitors at our booths.

On the same day, an all-new undergraduate programme, "Enrichment Stream in Theoretical Physics" (JUPAS Code: JS4690) was introduced to the public for the first time. This new programme, targeting prospective students with a sound secondary school training in physics and mathematics and with a keen interest in physics, will admit students beginning in 2015/16. The programme



takes full advantage of the existing strengths of the Physics curriculum to train students to have a solid grasp of fundamental concepts; analytic, numerical, computational, experimental, and research skills; and to appreciate and understand the important applications of physics in the modern world. The programme has an intake quota of 20 for 2015/16.

To assist with the dissemination of important admissions-related information, the Science Faculty and each of the undergraduate major programmes released an updated set of booklets and leaflets. This information can be found online [here](#).

IN THIS ISSUE

Scouting a New Journey:
Orientation Day 2014
SEE page 1

Global Food Security under Threat
SEE page 2

New Light on Possible Treatment
of Spinocerebellar Ataxia
SEE page 3

The Dawn of a New Beginning:
Recap of Orientation Activities 2014
SEE page 3

Science Inspiration Project
for Secondary School Students
SEE page 4

Science Academy for Young Talent
SEE page 5

Upcoming Dates and Events
SEE page 6



Global Food Security under Threat

Professor Amos P. K. TAI of the Earth System Science Programme has projected a severe negative impact on global crop production over the next few decades. With the help of a sophisticated computer model, climate change together with uncontrolled air pollution will not only result in decreased crop production, but will also increase the rate of undernourishment around the world, posing a serious threat to global food security and public health. Despite the gloomy forecast, Professor Tai's research has also found that it may

be possible to offset the potentially disastrous impact by adopting aggressive air pollution regulation and growing more heat-tolerant crop varieties.

The significance of the current study is that it is the first to analyze the effects of the interaction between climate change, air pollution, and agriculture. The findings raise an urgent yet timely alarm for the possibility of better public policy-making to ensure that the projected adverse consequences of unaverted climate change and increased

air pollution would never become reality. Specifically, the authors believe that their findings highlight “the need for greater collaboration between farmers, agricultural policymakers and air quality managers to achieve coordinated goals concerning public health and food security” (Tai, Martin and Heald, 2014 p.820).

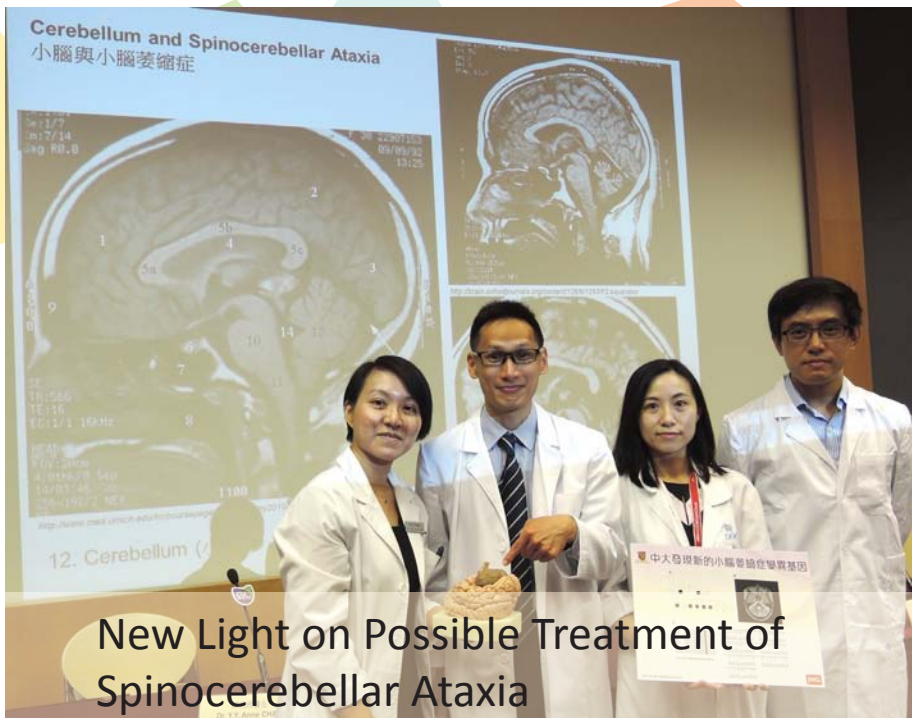
Professor Tai has been active in sharing his research findings with the general public via open lectures and the Science Faculty's Popular Science Talks. We are pleased that Professor Tai will be speaking on his latest research to local secondary students in his talk entitled “For the Love of Food: Farming and Eating Sustainably under Global Climate Change.” Please contact the Science Faculty Office for details about Popular Science Talks.

Further Reading:

Amos P.K. Tai, Maria Val Martin, and Colette L. Heald. “Threat to future global food security from climate change and ozone air pollution.” in *Nature Climate Change*, 2014; DOI: [10.1038/NCLIMATE2317](https://doi.org/10.1038/NCLIMATE2317).



Sophisticated computer modeling has projected detrimental effects of unperturbed rise in air pollution and continued climate change in the world.



New Light on Possible Treatment of Spinocerebellar Ataxia

A multi-disciplinary research team led by Professor Edwin Ho-yin Chan of the School of Life Sciences has made a remarkable discovery in the search for a cause for Spinocerebellar Ataxia (SCA). The team has recently published their latest findings, that of a novel genetic mutation that causes SCA, in an article in international leading journal *Journal of Medical Genetics*. Moreover, the naming of the newly found mutation ‘SCA40’ to describe this new type of SCA has

been approved by The Human Genome Organization Gene Nomenclature Committee, an influential international organization formed by scientists who study human genetics.

Through hard work over the course of three years, the team has not only found a novel genetic mutation that causes SCA, but their findings point the way for clinical geneticists to provide genetic testing and counselling

services to patients. In the next phase, Professor Chan and his team will work on therapeutics that target SCA40. SCAs, a group of genetic diseases where patients suffer progressive deterioration of the nervous system, experience gradual loss of fine motor functions and have difficulty maintaining balance or coordinating daily movements. The predicaments of patients of this disease was made popularly known in Hong Kong several years ago by the Japanese drama *A Litre of Tears*. Since 2007, the Hong Kong Spinocerebellar Ataxia Association has been providing much-needed support for SCAs patients and their families.

Further Reading:

Ho Tsoi, Allen C S Yu, Zhefan S Chen, et. al. “A novel missense mutation in *CCDC88C* activates the JNK pathway and causes a dominant form of spinocerebellar ataxia” in *Journal of Medical Genetics*, 2014: DOI: [10.1136/jmedgenet-2014-102333](https://doi.org/10.1136/jmedgenet-2014-102333).



The Dawn of a New Beginning: Recap of Orientation Activities 2014

Each August, many bright-eyed, newly-admitted students undergo a series of orientation activities to initiate themselves to the whole new world of university life and studies. The 2014/15 cohort of students received a warm welcome from their teachers

and fellow students at occasions such as Academic Counselling Session for New Full-time Undergraduate Students 2014 (14 August), Orientation Camp (16-19 August), Inauguration Ceremony for Undergraduates 2014 and Science Faculty Tea Reception (1 September).



Science Inspiration Project for Secondary School Students

All students of CUHK are encouraged to be actively participating and organizing different activities as a balanced approach to whole-person education. With the Support of I•CARE Programme and Centre for Promoting Science Education, Science Inspiration Project for Secondary School Students was launched in September 2013. In order to conduct learning by teaching and promote science education to primary and secondary school students, 32 undergraduate students from Faculty of Science visited various schools in different districts of Hong Kong and

Macau to deliver free workshops for the school students.

During the visits, our science students enlivened the learning experience of students by using courses, games, workshops, and hands-on experiments to creatively and interactively deliver scientific knowledge. To demonstrate that science is fun to learn, the team introduced science in daily life with simple and easy-to-understand words. In 2013-14, the team organized scientific activities in PHC Wing Kwong College, SALEM Immanuel Lutheran College,

Chinese YMCA College, LST Young Ko Hsiao Lin Secondary School and Pui Ching Middle School (Macau). More than 200 primary and secondary school students participated in the scientific activities, and all of them had a fruitful and enjoyable learning experience. In this semester, the team will continue to reveal the essence and beauty of science to school students.

For enquiries and further information, please contact Miss Joyce Leung (3943 1387; pyleung@cuhk.edu.hk).



Students learnt and identified common plants found in Hong Kong. Can you distinguish a wild plant that can save your life from another that is poisonous?



Together with the students, the team unveiled the food science hidden in our diets. How yummy is the handmade ice-cream!



Science Academy for Young Talent

Since 2010, Science Academy for Young Talent (SAYT) has been dedicated to nurturing secondary school students talented in science by providing different enrichment courses. In the summer of 2014, more than 400 students enrolled in five university-level credit-bearing courses, and eight academy-level credit-bearing courses. These enrichment courses covered a wide range of innovative scientific topics including but not limited to Astronomy, Bionics, Chemistry, Nanotechnology and Statistics. It was an invaluable

opportunity for these bright students to learn science beyond their school syllabus in a university setting. Students were awarded university-level or academy-level credit(s) after fulfilling the course-specified requirements.

For enquiries and further information, please visit Academy's [website](#), [Facebook Page](#) or email the Academy at sayt@cuhk.edu.hk.



Students pay special attention when performing hands-on experiments.



Our course instructors strive to ignite students' interest in science.

UPCOMING DATES AND EVENTS

Monthly Meetings with Dean of Science

Professor Henry Nai-ching Wong, Dean of Science, has arranged monthly staff meetings in an informal setting. Upcoming sessions are as follows:

November: 28 November 2014 (Friday), 4:00pm - 5:00pm
December: 16 December 2014 (Tuesday), 3:30pm - 4:30pm
Venue: both sessions will be held in CN Yang Reading Room (SC126)

Alumni Homecoming 2014

The captioned event will be held 11:00am to 5:00pm on Saturday, 29 November 2014. For details and registration, please visit the [official website](#).

Hong Kong PhD Fellowship Scheme 2015/16

Initial applications to the captioned scheme is due at 12:00noon on 1 December 2014 (Monday, Hong Kong Time) to the RGC via the [online application system](#).

Popular Science Special Lecture Series: How Nobel Prizes Are Won

The Faculty has organized three lectures to explain the science behind this year's Nobel award-winning scientific research. Details of the event are as follows:

Date & Time: 5 December 2014 (Friday), 4:30pm - 6:45pm
Venue: LT1, Cheng Yu Tung Building, CUHK
4:30 - 5:15pm Nobel Prize in Physiology or Medicine 2014
Presented by Prof. Edwin Ho-yin Chan (School of Life Sciences)
5:15 - 6:00pm Nobel Prize in Chemistry 2014
Presented by Prof. Liwen Jiang (School of Life Sciences)
6:00 - 6:45pm Nobel Prize in Physics 2014
Presented by Prof. Daniel Hock-chun Ong (Department of Physics)
Registration: apply for free admission [online](#)

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