Faculty of Science Newsletter
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Introducing Science Foundation Courses in New 4-year Curriculum

Message from the Dean


Professor S Kwok, Dean of Sience

The academic year of 2012 is a milestone year for higher education in Hong Kong, as this is the first year of the 4-year undergraduate programme. The Faculty of Science has been preparing for this change for several years and is fully prepared to introduce the new programme. As early as 2006, we adopted the Major/ Minor System to replace the old programme system to give students flexibility and choice. Instead of following a fixed syllabus, students can select their own study programme as long as they satisfy the graduation requirement of a specific major. In 2007, we implemented Faculty Common Admission where students are admitted to the Faculty and have one year to explore various subjects before committing to a major. In order to assist students in exercising their newfound freedom, an Academic Advising System was set up. Students can get guidance on how to achieve the academic goals that they set for themselves. Recognizing that our students need more hands-on practical experience, Experiential Learning was made part of the graduation requirement in Science. In 2009, we offered a new major in Environmental Science, the first interdisciplinary major in the Faculty. A total of 15 majors, ranging from Astronomy to Statistics, are now available to our students. Since some of these majors may not be familiar to our incoming students, a programme of Academic Induction was set up where students can learn about what these majors are about. In 2010, we began to offer courses in the Common Core Programme to support the University's goal of cultivating a broader perspective for our students.

Beginning this fall, we will be offering two Science Foundation Courses, one on Scientific Method and Reasoning and the other on the Fundamentals of Modern Science. Through the first course, we hope to give students a holistic view of science in terms of its nature, concepts, and impact on civilization and society, and to equip students with basic skills of logical and quantitative

Contents

From The Editor

Dear readers,

This is a very special academic year for tertiary education in Hong Kong as this marks the beginning of the transition from 3-year to 4-year curriculum. In this September, we admit double number of students — the last cohort for the 3-year programme and the first cohort for the 4-year one.

In this issue of *Science@HKU*, our Dean will report on this transition and our development of the two tailor-made faculty-wide science foundation courses to suit the needs of the new 4-year science degree students.

The use of pepper spray by the Police Force has been an issue in town. Here in the "Behind the News section" of this newsletter, you will learn more about the science of and other interesting facts on pepper spay.

Yours sincerely,
Professor H F Chau
Chief Editor

reasoning, as well as to introduce mathematical methods for different disciplines of science. In the second course, we will take an integrated approach to give students an overview of the web of knowledge that makes up science. Our focus is on the general principles and the unifying concepts that are used to describe the diverse phenomena in the natural world. The fundamental laws and historical developments and the interconnectedness of different science disciplines will be highlighted. These courses are designed to correct the segregated approach of teaching science which has been traditionally used in Hong Kong, as well as to allow students, independent of their major, to see the utility of science training in the real world.

These reforms are driven by our underlying education philosophy that university is not a trade school. Our goal is not to provide vocational training but to develop the student as a person, to prepare him/ her how to think, and to develop the analytical skills needed to tackle real life problems in diverse situations. As a Faculty which prides itself in its strong research, we want to make this community of scholars available to our students so that they can benefit from their wisdom and expertise. In order to achieve this goal, we have created opportunities for undergraduate research, so that students can have first-hand experiences both in the laboratory as well as in the field.

I would like to thank my colleagues in the Faculty of Science who have been working hard to bring about these changes and to meet society's expectation of bringing new light to science education in the 4-year curriculum. We are also fortunate that our efforts have been made easier by the addition of new colleagues in our professorial ranks in the last several years.

I look forward to working with our students, our staff, and our alumni to bring these reforms to fruition. Your comments, suggestions, and ideas on how we can better serve our students are most welcome.

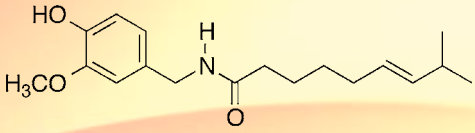
Behind the News

PEPPER SPRAY
How Does It Work?

by Professor W K Chan, Department of Chemistry

The use of pepper spray by the Hong Kong Police against protestors has been a controversial matter recently. How does pepper spray actually work?

The active ingredient in pepper spray is capsaicin, which is a member in a group of compounds called capsaicinoids. Capsaicin are commonly found in chilli peppers, which are used as spice in many food recipes. It is a very strong irritant to skin and mucous membrane, and will result in a burning sensation. That is the reason why we feel "hot and spicy" when eating food that have chilli as one of the ingredients.



Structure of capsaicin.

Capsaicin is extracted from peppers using an organic solvent and an emulsifier is used to suspend the capsaicin in water, and then pressurized to make it aerosol in the pepper spray. Hydrofluorocarbons (HFCs) may be used as the propellant. If it contacts with our eyes (or nasal cavity), the painful feeling may temporarily immobilize a person by causing immediate breathing difficulties, tears, runny nose and coughing. Burning sensation may last for up to an hour depending on the strength of the pepper spray but the effects will diminish in time. As capsaicin is not soluble in water and the persons after being sprayed should vigorously blink the eyes for the tears to flush the irritants out. Pepper spray is considered to be a non-lethal weapons by law enforcing agents. However, from the materials safety data sheet (Sciencelab.com) of capsaicin (natural extract), serve over-exposure to the chemical can result in death.

In some foreign countries, pepper spray is being used for self-defense purpose. However, it is considered to be a weapon in Hong Kong and it is unlawful to possess any pepper sprays.

Capsaicin and it derivatives may also be used in a variety of application. It is one of the ingredients in some pain relieving patches, which causes "hot and warm" sensation when applied on skin. It may also be used as animal deterrent. After being applied on an object such as cable and garbage, the compound may irritate animals when they smell, touch or taste it.

Getting Our Hands Dirty in Farm

UBC Summer Course on Sustainable Farming and Food Systems

by Claudia Wong, year 2 BSc student
(double majors in Ecology & Biodiversity and Psychology)

Have you ever dug a potato, or pulled beet root yourself? Have you ever tried to hand pick berries and beans? We, a group of 30 students from different science majors, got the chance of getting our hands dirty in farm this summer. We picked crops like farmers and sweated like one. We were given the opportunity to participate in complicated food production process, and of course, we were also the first one to taste those sweet juicy berries. We were here to take part in the inaugural 2-week exchange programme in University of British Columbia (UBC) of Vancouver – the Summer Course on Sustainable Farming and Food Systems from July 9 to 21, 2012, supported by HKU Faculty of Science.

In view of the uprising awareness of security, the programme focused on food production and security. It included both academic and leisure sessions, in order to provide us a balanced student life. Academic sessions consisted of daily lectures on farming techniques and their corresponding scientific theories, and farm work in UBC organic farm. The farm experience is so invaluable to us, as we do not have such well managed and large-scaled organic farm in Hong Kong. We even visited local farmers' markets to gain a full picture of marketing strategies of food in Canada.

Hear from Other Participants at:
www.scifac.hku.hk/ubc-video

Claudia Wong
Year 2 BSc student
(double majors in Ecology & Biodiversity and Psychology)

"I found myself fascinated by our mother nature during this trip to UBC, and I believe other fellow participants share the same feeling too. The 2-week course enabled me to explore new aspects of knowledge, abilities and changed much of my attitude towards food security and environment preservation."

Learning Indoor and Outdoor

Lectures here in UBC adopt highly interactive learning strategies. The small group discussions and evaluations allowed us to reflect, ask questions and most importantly, gave us assistance and guidance to do our assignments and presentations. Learning atmosphere here was amazing, not stressful but rather relaxing and enjoyable.

Outside the classroom, we did something entirely different in the UBC Farm. I have not dreamt of being a farmer before, but it was really enjoyable to work like one under the sunshine – weeding, berry-picking, harvesting and packaging. Working in the farm does not only give us the idea of how an organic farm operates, but it also tells us the work behind every single produce, the importance of food security and how it can be achieved. This was a time when we integrated theories into practice, which greatly enhanced our understanding in food systems.

Leisure sessions were undoubtedly golden opportunities for us to explore the local culture, city and natural environment of Vancouver. We were all amazed by the natural sceneries and wildlife like during our weekend excursions to Victoria, Whistler and Grouse Mountain. These, though claimed as leisure activities, were also highly related to our studies – especially for an ecology and biodiversity student like me. Even students from other majors were astonished by the unique ecosystem in Canada.

I would say this course is highly enjoyable, fun and inspiring. Going overseas, learning and getting our hands dirty in the farm, while at the same time exposing ourselves to spectacular nature and rich biodiversity – all these, have composed indelible memories for us. What more of an experiential learning experience can you ask for?

ACTIVITY HIGHLIGHTS

	MON	TUE	WED	THUR	FRI	SAT	SUN
WEEK 1	Campus Tour City Tour	UBC Farm Tour Museum of Anthropology	Tours at Green Building and College Kitchen	Hands-on Learning in Farm	Harvest Friday Downtown Shopping	Visit UBC Farm Market	Grouse Mountain/ Whistler Excursion
WEEK 2	Victoria Full Day Trip	Vancouver Art Gallery	Visit of Farmers Markets	Hands-on Learning in Farm	Harvest Friday Beach Night	Farewell Lunch	Back to HK

About UBC Summer Course

The UBC Summer Course is a recurrent programme for science undergraduate students supported by the Faculty. Building on the positive feedback of the course on sustainable farming and food systems this year, the Faculty will continue to work with UBC for more courses on different science disciplines in subsequent years.

Chinese Kung Fu in action at the camp site in Tsitsikamma National Park.

Postgraduate Students Fostering Exchange with Other Universities

by Ho King Yan Kevin, PhD candidate of School of Biological Sciences and The Swire Institute of Marine Science

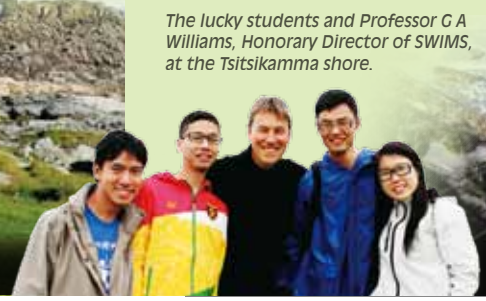
A Fruitful Ecology Excursion at South African Coastline

Four marine biology PhD students, Vera Chan, Andy Yi, Elvis Xu and Kevin Ho, joined a 2-week ecology excursion in Tsitsikamma National Park, one of the largest coastal marine reserves in the world that stretches over 80 km of the South African coastline in April, 2012. This is the 3rd year that HKU postgraduates participated in the annual fieldtrip, fostering collaborative exchange between SWIMS and the Zoology Department of The University of Johannesburg (UJ). Situated along the Garden Route of the south-eastern coast of South Africa, Tsitsikamma is famed for both its scenery and rich ecological diversity, and is definitely an ideal outdoor classroom for ecology training.

Lectures there were given in tents, and students had to conduct field studies at the shore all day. They identified marine organisms, measured species distribution patterns and observed organism behaviours. One of the observation exercises even took up to 24 hours! Instructed by local experts, the class also did hands-on fieldwork like sampling at intertidal mudflats and salt marshes, which provided a good opportunity for them to exchange knowledge on ecology and conservation with the local. Despite the intensive work and grueling exercises, the field trip was filled with fun, laughter and creativity, with many opportunities for cultural exchange between the HKU and UJ groups.

For details, please visit:
http://www.scifac.hku.hk/news/comm/sbs-exchange-experience

The field course was concluded with big smile and friendship.



The lucky students and Professor G A Williams, Honorary Director of SWIMS, at the Tsitsikamma shore.

Advancing Scientific Communication through University Consortium

Established and run entirely by a group of passionate postgraduate students from SWIMS of HKU and Xiamen University (XMU), the University Consortium on Aquatic Sciences (UCAS) organized its 4th Symposium at XMU from March 5 to 9, 2012. The Consortium successfully attracted 43 young scientists from seven universities, including HKU, XMU, The Chinese University of Hong Kong, Baptist University of Hong Kong, National Taiwan Ocean University, Nanjing University and Nanjing University of Technology to exchange research ideas with each other.

The remarkable success of UCAS has proven that postgraduate students are not merely capable of doing research, but can also take initiative to create their own learning opportunities, build social network and raise funds for their projects. Encouraged by the overwhelming response, the consortium will continue to expand its network and influence to the public by engaging in more educational programmes.

For details, please visit: http://www.scifac.hku.hk/news/comm/sbs-ucas

UCAS committee members from HKU and XMU

Animal distribution studies on the rocky shore.

Environmental Science Students Exchanged with Shimane University on Environmental Issues

Students working with microscopes.

During the reading week in early March, 2012, Dr M Yasuhara, School of Biological Sciences led a group of final-year Environmental Science students to a residential field trip in Shimane and Hiroshima of Japan. The field trip, which was a main component for practical and field-based learning of environmental science, provided hands-on experience for students to conduct sediment coring at Lake Nakaumi, analyse microfossil with sediment samples collected, and prepare giant group posters to elaborate the environmental history of the lake for the past few hundreds of years, depicting how human-induced environmental degradation has been actualized rapidly since the mid of 20th century, the period when Japan developed with rapid economic growth.

Students at the giant salamander conservation facility of Asa Zoological Park.

The group also visited Asa Zoological Park, the best institution for Japanese giant salamander conservation and the only place with successful artificial breeding of such salamanders. It was indeed a very good opportunity for students to learn environmental issues in places other than Hong Kong make comparisons. It also marks a good start facilitating the exchange between HKU and Shimane University in the future.

For details, please visit:
http://www.scifac.hku.hk/news/comm/envs-in-practice

Final-year Environmental Science students at field study.

Shipboard scientists were discussing sampling plans for the section of Ocean Anoxic Event (OAE), the ~30 cm long, black, organic rich sediments in the fourth core from the left. Two weaker OAE events also occurred in the sixth core.

The IODP (Integrated Ocean Drilling Program) currently brings together scientists in various disciplines from 24 countries to conduct investigations of fundamental problems in Earth Sciences. Through its multiple drilling platforms, the IODP is well equipped to investigate the interdependence of physical, chemical and biological processes on ocean floors. Over years, these programmes have significantly advanced our understanding of Earth's processes, for instance, tectonic processes, ocean circulation, climate change, continental rifting and deep biosphere.

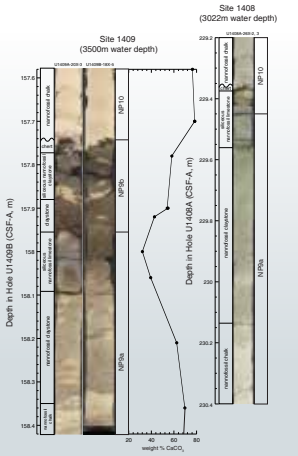
The research vessel JOIDES Resolution operated by the IODP, which took its name from the glory of the 200-year-old HMS Resolution under the command of the famous Captain James Cook.

International Collaborated Expedition Studying Warmer Climates

by Dr Z H Liu, Department of Earth Sciences

Last summer, I as an Organic Geochemist joined a shipboard scientific expedition, comprising more than 30 international scientists, to drill ocean sediment cores in the Newfoundland region. The scientific objectives of the 2-month, US$12 million-budget, expedition were to retrieve Paleogene sediment cores with unusually high sedimentation rates to study the dynamics of past abrupt climate change during a much warmer climate state. We have obtained excellent sediment materials for future studies. The scientific party will work collectively to unravel past climate change, while my own research will focus on reconstructions of past temperature changes and associated atmospheric carbon dioxide level, using organic geochemical tools.

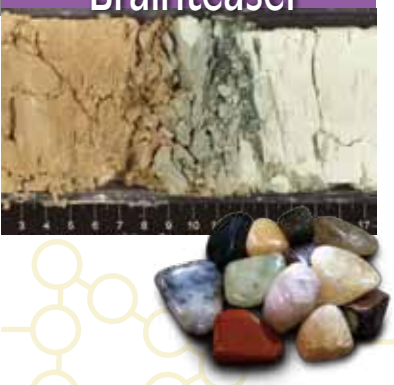
Knowledge about the past will help address today's global challenges. The Paleogene is a geologic period, from 65.5 to 23 million years ago (Ma), and includes the Paleocene, Eocene and Oligocene epochs (similar ages of sedimentary sequences can be found in Tung Pin Chau, Hong Kong National Geopark). This period witnessed a rapid evolution and diversification of mammals. Global climate also changed dramatically during this period. During the Paleocene and Eocene, continental ice was largely absent in Earth's two poles (i.e. greenhouse world), and the climate was extremely hot. About 34 Ma, continental ice appeared on Antarctic and the Earth's climate entered into "icehouse world". How the Earth could maintain a much warmer climate than today and what caused the Earth's glaciations are still poorly understood. In the context of today's anthropogenic impact, studies of past natural climate change in a warmer world, as well as associated ocean acidification, would help human beings get prepared for the anticipated future climatic and environmental changes.



The Paleocene-Eocene Thermal Maximum (PETM) recovered in cores from this expedition, indicated by the darker-color sediments and reduced carbonate contents.

The IODP (Integrated Ocean Drilling Program) organized the expedition to the Newfoundland region (IODP Expedition 342), where the Titanic hit icebergs and sank. Directly beneath the deep western boundary current in the northwestern Atlantic Ocean, this region formed drift sediments with unusually high sedimentation rates during the Paleogene, up to 10 cm/thousand years as compared to 0.5-1 cm/thousand years in typical pelagic sites. Such high sedimentation during the Paleogene would enable scientists to study the dynamics of past abrupt climate change, including both transitions into 'greenhouse' and 'icehouse' climate states, the full magnitudes of hyperthermal events, and rates of change in the carbonate compensation depth. We have retrieved a series of sediment sequences that cover critical geological boundaries and climatic events. For instance, the section of a hyperthermal event so called "Paleocene-Eocene Thermal Maximum (PETM)" at ~55 Ma, when the Earth's temperatures were extremely hot, was recovered in a number of sites; a section of the Ocean Anoxic Event (OAE), when oceans in a large part were depleted in oxygen, from the Cretaceous period was also recovered (see photos). These sections will provide excellent materials for future studies.

Brainteaser



Question: The Earth's history can be divided into a few geological periods. The boundaries between these periods (epochs) are often associated with notable changes in sediment color and grain size that can be easily identified in field. The photo on the left is a section retrieved by the recent IODP Expedition 342 from the Newfoundland region. A layer of coarse-grain sediments can be cleary observed at a boundary associated with a mass extinction event. Identify the boundary and the animal most often associated with this mass extinction.

Please email your answer together with your name and school (for students), to scinews@hku.hk. FIVE winners will be drawn randomly from the contestants who give the correct answer.

Prize: Collection of variation of quartzes

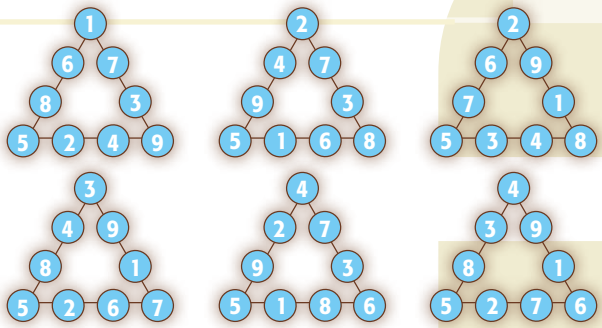
Deadline: December 31, 2012

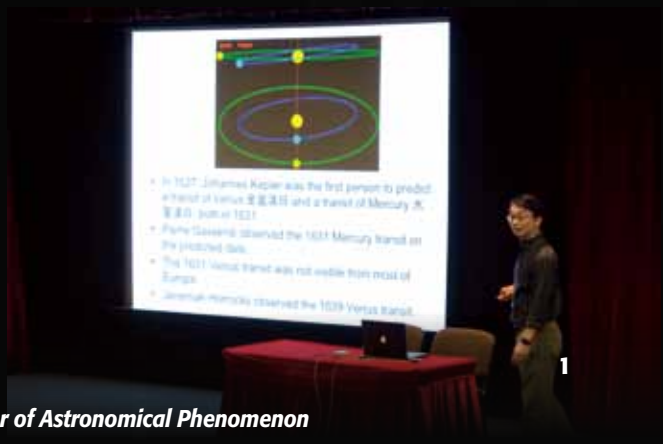
Question of last issue

Is it possible to put the numbers 1 to 9 in the circles in the figure so that each side of the triangle adds up to 20? Explain your answer carefully.

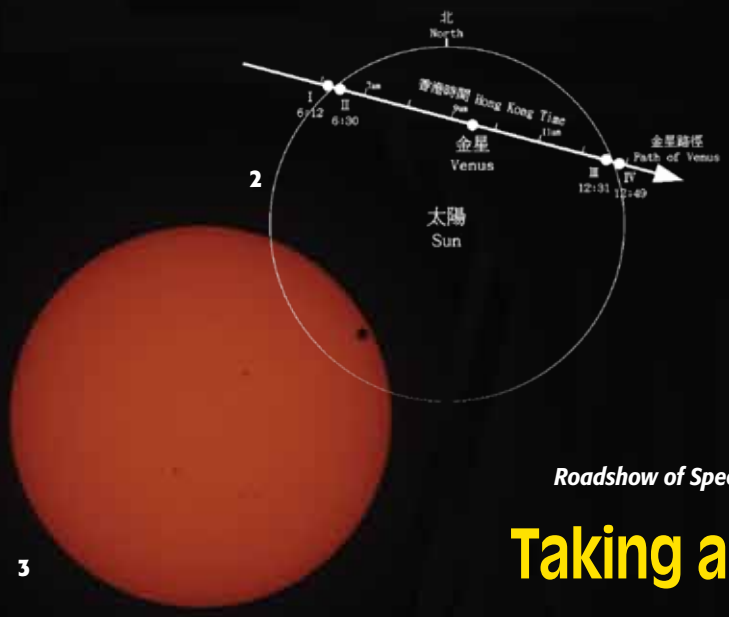
Answers: Yes, it is possible because one can put the numbers as in the figures on the right. For detailed solution, please visit:

http://www.scifac.hku.hk/brainteaser-13

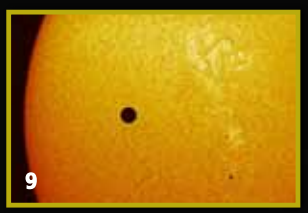




Roadshow of Spectacular of Astronomical Phenomenon



Taking a Closer Look of Transit of Venus



All eyes were on the stargazing extravaganza on June 6, 2012, witnessing Venus make its transit across the Sun in one of astronomy's rarest spectacles.

Experts from HKU Faculty of Science, Hong Kong Space Museum, Hong Kong Astronomical Society, and the Ho Koon Nature Education cum Astronomical Centre had run a series of programmes for the transit of Venus event, in particular, a roadshow was set up at the Avenue of Stars in Tsim Sha Tsui to help stargazers and members of the public to view the once-in-a-lifetime astronomical phenomenon, using telescopes and solar filters at the observation posts. The roadshow successfully attracted thousands of amateurs gather and witness the transit of Venus. A series of lectures and training workshops for teachers were also organized, promoting science literacy and enhancing public's appreciation of the spectacle. A coordinated effort was paid to establish a network of observation stations in 20 schools and 15 public space, allowing more students and public to join the observations.

The astronomical event happens in pairs, eight years apart, and the next transit of Venus is 105 years away, i.e. it will not be visible again until 2117. The transit occurs when an inferior planet, like Venus, passes directly in between the Sun and the Earth, and the planet appears as a tiny black disc moving across the surface of the Sun. The transits of Venus were historically of great scientific importance as they were the key to measure the Sun-Earth distance and hence the scale of the universe.

For more information please visit:
http://www.facebook.com/transitofvenushk

Public talk on transit of Venus. 1

The path of transit of Venus. 2

Transit of Venus is one of the rarest astronomical phenomenon. 3

Booth at the Roadshow. 4

At the exhibition of transit of Venus, HKU students introduced the phenomenon to the public. 5

Training workshop for primary and secondary school teachers on the observation of the spectacular astronomical phenomenon. 6

The Astronomy Club, HKUSU set up a telescope in campus for HKU members to view the spectacle. 7

Stargazers using telescopes to view the transit of Venus across the Sun. 8

Photo of the transit of Venus submitted by the public on the social media. 9

Physics Department Signed Expression of Interest with CERN

The European Organization for Nuclear Research (CERN) announced the observation of Higgs-like particle in both their ATLAS and Compact Muon Solenoid (CMS) experiments on July 4, 2012 in Geneva, and on July 13, 2012, it signed an Expression of Interest (EOI) with Department of Physics, Faculty of Science, HKU to promote academic and educational exchange between the 2 institutions.

From the left: Professor Albert de Roeck of CERN, Professor Joe Incandela, spokesperson of CMS, CERN, Professor W S Cheung, Acting Dean of Science, Dr J K C Leung and Dr J C S Pun of the Department of Physics.

Students Reaching out the Community to Promote Science Literacy

by Sirius Chung,
MPhil Student of School of Biological Sciences

Driven by the motto of "Inspire, Engage and Explore Science" and with full support by Faculty of Science, HKU Science Outreach Team organized several activities for general public and students this summer, promoting science literacy to the community.

Primary School Visit

Workshops with fun science experiments were conducted in four primary schools – Lok Sin Tong Leung Kau Kui Primary School, Chiu Yang Por Yen Primary School, Tseung Kwan O Government Primary School, and T. W. G. Hs. Tang Shiu Kin Primary School, introducing the concepts of "change of states" and "detergents' action" to students. The workshops were well received, with positive feedback from both primary school teachers and students.

Science Video Competition

Despite its complicated theories and precise calculations, Science touches every aspect of our daily life. The Science Video Competition, which targeted at secondary school students, was held to stimulate contestants' interest to learn and apply science to daily life, with the use of a 8- or 10-minute video. Nine teams were selected to enter the final presentation held in HKU campus. Faculty members who served as judges appreciated the creativity and video-editing skills of participating schools. The champion went to a team from St. Stephen Girls' College, with video illustrating sleeping waves and different stages of sleep.

Field Trips & Site Visits

The team offered field trips to two restricted areas, The Swire Institute of Marine Science (SWIMS) and Daya Bay Nuclear Plant for secondary school students in this summer. The trips were very popular among the secondary school students, and attracted a good number of participants. The team hoped that the visits would enhance participants' interest in science and even pursue science as a study or career in the future.

More about Science Outreach Team

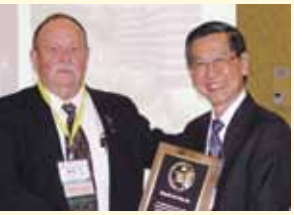
HKU Science Outreach Team is a student-led organization established in 2012, fully supported and sponsored by the Faculty of Science. Apart from promoting science literacy to the public, team members are encouraged to learn and have self-development through organizing activities and communicating to the society. The team will strive to promote science literacy in the future and continue to deliver the message "Science is life. Life is science. Science is everywhere".

Webpage: http://outreach.science.hku.hk/

Facebook: http://www.facebook.com/scienceoutreach.hku

Achievements

Teachers



Professor M Lie Ken Jie, Honorary Professor in the Department of Chemistry and School of Biological Sciences, received the Alton E. Bailey Medal of the USA Section from the American Oil Chemists' Society (AOCS) in May of 2012, for his outstanding research on the development of synthetic methods, analytical methodology, and for the exemplary service to AOCS.

Professor S Kwok, Dean of Science and Chair Professor of Physics, was elected as Vice President of the International Astronomical Union (IAU) Bioastronomy Commission. He will help the Union to organize world-wide research and education activities including conferences. "I am honored by the community's trust in me to take this new exciting discipline to a higher level. I will try to promote further international collaborations to achieve our science goal of understanding the origin of life," said Professor Kwok. Bioastronomy is a subdiscipline of astronomy of high current interest, covering the subjects of origin of life on Earth and the search for evidence for extraterrestrial life.

Professor Z D Wang of Department of Physics shared the 2011 Science and Technology Award of Guangdong Province (First Class) with Professor S L Zhu of South China Normal University. Their research project is entitled "Studies of Quantum Simulation and Quantum Computation".

Dr A S T Wong, School of Biological Sciences, was awarded the prestigious Senior Research Fellowship by the Croucher Foundation in March of 2012, in recognition of her excellent scientific achievements and contributions to the international scientific community. The research of Dr Wong focuses on signal transduction in cancer. In particular, cell adhesion molecules are very important for many physiological processes, which if deregulated, can contribute to cancer.

Professor V W W Yam, Philip Wong Wilson Wong Professor in Chemistry and Energy, was elected the Foreign Associate of the National Academy of Sciences (NAS) for her excellence in original scientific research. Membership in the NAS is one of the highest honors given to a scientist or engineer in the United States. Professor Yam will be inducted into the Academy next April during its 150th annual meeting in Washington, D.C, along with 83 other members.

Professor Yam's pioneering research has helped put The University of Hong Kong on the academic map nationally and internationally, and her outstanding teaching is a draw for talented graduate students and her team. As a scientist grown up in Hong Kong, Professor Yam was flattered and felt greatly honoured to be elected. "The most gratifying thing is that they recognize and honour a purely homegrown HKU graduate," she said.

Students

Mr Terence P T Ng, a PhD student at The Swire Institute of Marine Science (supervised by Professor G A Williams), won the Three-minute Thesis (3MT™) Competition in May, 2012. This is an annual university-wide competition organized by the Graduate School and the Knowledge Exchange Office, which is an academic competition that challenges research postgraduate (RPg) students to explain their research within three minutes to a general audience. Terence was both the Champion (judges decision) and recipient of the People's Choice Award (popular vote decision).

Hear from Terence: "This competition allows young scientists to summarize their research work and share it with others in an interesting way. As a researcher, I think it is crucial to demonstrate your ideas to others, either specialists in your field or non-specialists. I am glad that my passion and enthusiasm over my study impressed the audience, and I would like to thank my supervisor Professor G A Williams, my colleagues and friends for their help and support."

Miss Li Teng Akala, MPhil student of School of Biological Sciences under the supervision of Dr D L Thomson, won the "Golden Kingfisher Prize" for her presentation at the meeting of the China Ornithological Society, Beijing Normal University in August, 2012.

Programme

The Junior Science Institute teaching team received the University Knowledge Exchange Award for Faculty of Science 2012 for their efforts in promoting science literacy and fostering knowledge exchange with secondary schools. Instructors of the team include Dr B C H Hau, Dr Z Liu, Professor L S Chan, Dr H C Chiu, Dr T W Ng, Dr S P Yung, Professor K M Tsang, Dr C W Wong, Dr K H Chan, Dr N K Tsing, Dr Y M Chan, Dr Y K Lau, Professor W S Cheung, Dr G Han, Professor W Zang, Dr W K Ching, Dr A P L Tong, Dr E L M Wong, Professor W K Chan, Dr C S C Lo, Dr K F Lam, Dr A B Djurišic, Dr S Bevan and Mr S L Cheung.

Public Lectures

April 24, 2012

"Our Place in the Universe"

by Professor S Kwok, Dean of Science, and Chair Professor of Department of Physics, HKU.

September 19, 2012

Shaw Prize lecture on Mathematical Sciences – Mirror Symmetry

by Professor M Kontsevich, Shaw Laureate in Mathematical Sciences 2012, and Permanent Professor at l'Institut des Hautes Études Scientifiques and AXA-IHÉS Chair for Mathematics.

For details: please visit http://www.scifac.hku.hk/

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