



New 4-year Science Curriculum at HKU — Science Education in 2012 and Beyond

"The purpose of science education is no longer simply to train that tiny fraction of the population who will become the next generation of scientists. We need a more scientifically literate populace to address the global challenges that humanity now faces and that only science can explain and possibly mitigate, as well as to make wise decisions informed by scientific understanding."

by Carl Wieman, Nobel laureate in Physics (2001)

The new senior secondary curriculum has been implemented since 2009. And 2012 marks the year that this first cohort of students, after completing six years of secondary education, will be taking the new Hong Kong Diploma of Secondary Education (HKDSE) Examination and enters the University to study with the 4-year undergraduate degree curriculum.

The Faculty of Science is well prepared for this new 4-year curriculum as we have already in place the common admission policy, the major and minor system, student advisory system, and experiential learning requirements in our existing 3-year curriculum. Nevertheless, the Faculty has taken this unprecedented opportunity to critically review our undergraduate curriculum in order to offer students the best science education programmes. While maintaining the key features of the curriculum, courses in the majors will be reviewed and we will offer two Science Foundation Courses to all science students to give them a holistic view of science and prepare them with sufficient background to pursue any of the majors in the BSc programme.

Science Education in a Knowledge-based Society

The challenges posed by the modern society require the new generation of university students to possess the ability to tackle novel situations and solve complex and ill-defined problems. Society needs a scientifically literate work-force, and university students need a robust foundation on scientific knowledge and skills for them to pursue a wide range of careers. A sound science education must be rigorous as well as flexible, allowing students the choice to either focus on a specialisation in science or take courses in multiple subjects for breadth of knowledge and versatility. The emphasis of the science education on the ability to reason quantitatively and to understand scientific aspects of complex issues is greatly desirable in many professions. Many of our Faculty's alumni are now prominent legislators, business executives, educators, administrators and scientists.

Training of Future Scientists

Nurturing future scientists and promoting scientific literacy are the mission of HKU's Science Faculty. As barriers among various science disciplines have become obscure and major scientific advancements rely increasingly on syntheses of ideas in different disciplines, the traditional science education approach that compartmentalizes science into separate disciplines is no longer adequate. In addition, scientists have to reckon with the potential social implications of their work. This requires science students to have an appreciation of the role of science in complex societal issues as well as a good background of scientific knowledge.

From The Editor

Dear readers,

Final year secondary school students are busy at applying for universities around this time each year. This is a unique year as the number of students is reported to be doubled — one cohort applying for the 3-year curriculum and the other for the new 4-year curriculum. In this issue of *science@HKU*, we will tell you how the Faculty handles admission of Science undergraduate programmes in this transition year.

Yours sincerely,
Dr H F Chau
Chief Editor

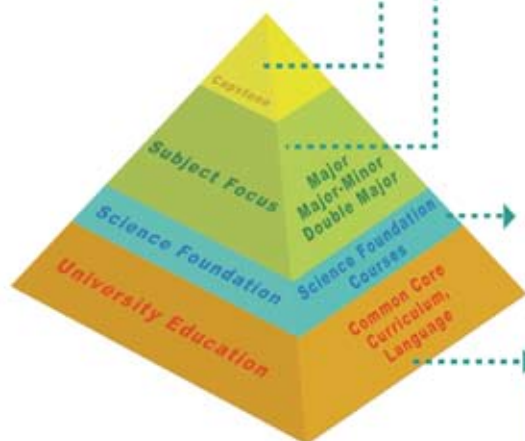
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BSc 6901 Bachelor of Science

Curriculum Structure of the 4-year BSc Degree (240 credits)

In order to achieve the goals mentioned in the above, a new HKU Science Curriculum has been designed, with the following key features.



Capstone Learning

- Requires students to integrate knowledge and skills to accomplish some nontrivial tasks in their areas of disciplinary study



A Flexible Science Specialization Programme

- Students are free to choose among the 15 Science Majors as their first major
- Students may choose a Minor or a second Major either within or outside the Faculty, and design their own curriculum which suits individual aspirations



Science Foundation Courses

- Two compulsory Science Foundation Courses give students a holistic view of science
- Helps to develop students' competence in the core science and the ability to reason in logical and quantitative manners



Common Core Courses

- Enables students to develop broader perspective and critical understanding of the complexities and interconnectedness of contemporary issues through different areas of inquiry



Language

- Enhances students' language skills through mandatory courses in English and Chinese
- Provides English language training specific to students' major of study



Diverse Learning Experience for Science students

Experiential learning is a distinctive feature of the Science undergraduate curriculum which aims to enhance the learning experience of science students. The Faculty of Science's Experiential Learning programme provides opportunities for students to extend their learning experience beyond the classroom. The experiential learning can be in the form of undergraduate research, exchange studies, field trips, disciplinary internship, or service learning internship. We believe such learning experience can benefit students by enhancing their insights in the real-world workplace environment and capabilities to integrate theory and practice, broadening their global outlook, and developing their social and cultural values.

3-year BSc Curriculum – Last Cohort for Admission in 2012

2012 will be the last year the Faculty admits students to the 3-year curriculum for both its BSc & BSc (Actuarial Science) Programmes. Students completing HKALE or equivalent after their 7-year secondary school education will be admitted to this 3-year curriculum. Student places for this cohort of students are separate from the 4-year cohort.



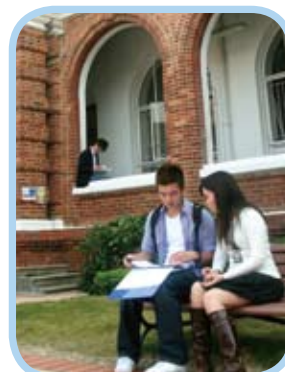
6729 Bachelor of Science in Actuarial Science

The BSc (Actuarial Science), the only programme of its kind in Hong Kong, provides formal academic training to students who wish to join the actuarial profession and to be actuaries. The programme is designed to provide specialist training in actuarial science and prepare students for professional examinations of the (North America) Society of Actuaries, Casualty Actuarial Society and the (UK) Institute and Faculty of Actuaries to Associateship level. The programme has exemption arrangements with the Institute and Faculty of Actuaries and has obtained Validation by Education Experience (VEE) from the Casualty Actuarial Society and the Society of Actuaries.

6119 Bachelor of Education and Bachelor of Science

A New Double Degree Programme to Train Science Teachers in Secondary School

This new 5-year double degree programme is offered jointly by the Faculty of Education and the Faculty of Science from 2012 with an aim to train secondary science teachers. It is an integrated programme offering both academic and professional studies. It incorporates a graduate teaching qualification and is regarded as the equivalent of a BSc degree plus a Postgraduate Diploma in Education.



FAQ on the 6901 BSc programme

1. What are the features of the 6901 BSc programme?

- one programme code with a choice of 15 science majors
- complete freedom in choosing any major
- no quota for each Science major
- easy to change majors

2. What are the choices of Science majors available for the programme?

15 Sciences majors are available:

3-year Curriculum

Astronomy
Biochemistry
Biology
Biotechnology
Chemistry
Earth Sciences
Ecology & Biodiversity
Environmental Science
Food & Nutritional Science
Mathematics
Mathematics/ Physics
Microbiology
Physics
Risk Management
Statistics

4-year Curriculum

Astronomy
Biochemistry
Biological Sciences
Chemistry
Earth System Science
Ecology & Biodiversity
Environmental Science
Food & Nutritional Science
Geology
Mathematics
Mathematics/ Physics
Molecular Biology & Biotechnology
Physics
Risk Management
Statistics

3. How many and what courses students have to complete for the programme?

3-year Curriculum

To complete the BSc degree curriculum, a student has to pass at least 180 credits, equivalent to 30 6-credit courses, normally spread over 3 years of full-time study. The BSc curriculum typically comprises:

- 72 credits of courses for the major including experiential learning requirement;
- 21 credits of courses for university language and common core requirement;
- 12 credits of Science Faculty electives
- 75 credits of electives courses, or courses leading to a minor or a second major

4-year Curriculum

To complete the BSc degree curriculum, a student has to pass at least 240 credits, equivalent to 40 6-credit courses, normally spread over 4 years of full-time study. A BSc Curriculum typically comprises:

- 16 courses on major including 2 Science Foundation Courses and capstone requirement (96 credits);
- 2 English courses and 1 Chinese course for university language requirement (18 credits);
- 6 Common Core courses in 4 Areas of Inquiry (36 credits) ;
- 15 courses available for electives, or courses leading to a minor or a second major (90 credits)

4. When do students have to declare a major?

Students are not required to declare their major in the first year. They may "shop around" in their first year and make the decision after the first year of study. For the 4-year curriculum, students can even declare their major after their second year of study.

5. Is there any quota for each Science major?

No quota is set for each Science major.

6. Can students change their declared major and minor?

Yes, students can change majors during their study but each major has its own course requirements. Students should seek advice from the Faculty's advisers.

7. What are the University entrance requirements and the Faculty entrance requirements?

3-year Curriculum

- Grade E or above in AS Use of English*
- Grade E or above in AS Chinese Language & Culture
- Grade E or above in at least 1AL and 1AS subjects in (Physics or Engineering Science), Chemistry, Biology, Pure Mathematics, Applied Mathematics, Mathematics & Statistics, Computer Studies, Computer Applications, (Geography or Economics*)
- Students with other subjects will be considered individually.

* The University normally requires a grade D in Use of English but special consideration has been given to those students with a grade E in Use of English applying for this programme.

* It is preferable for students taking AL/AS Economics to have also taken an AL/AS subject in Pure Mathematics, Applied Mathematics or Mathematics & Statistics

- HKCEE weighs about 25% in admission.

4-year Curriculum

- English language : Level 3
- Chinese language : Level 3
- Mathematics : Level 2
- Liberal Studies : Level 2
- Elective subjects : Level 3 in two subjects, with at least one elective subject in Biology, Chemistry, Physics, Combined Science or Integrated Science

Students who are not applying on the strength of HKDSE qualifications such as Associate Degree, Higher Diploma, GCE, IB, SAT or students from Mainland or overseas will be considered individually under the Non-JUPAS scheme.

8. How many places are available for the 6901 BSc programme for both 3-year and 4-year curriculum?

355 for the 3-year and 358 for the 4-year curriculum.

More FAQs on www.scifac.hku.hk/ug/prospective-student/4-year/6901/faq

Gathering Scientific Minds for Cutting Edge Collaborative Research

The Faculty is committed to excellence in research both in basic and applied science. Our research teams are engaged in both frontier research and large-scale international project, in the hope of seeking insights or unforeseen links in different science disciplines.

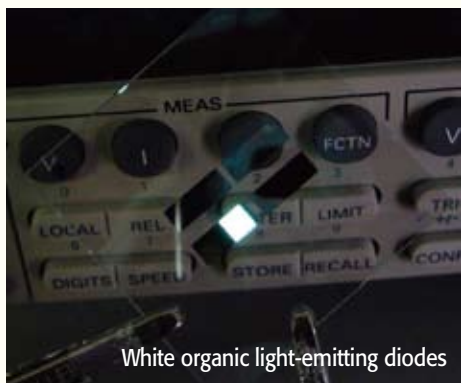
Developing a Sustainable Environment

by Professor Vivian W W Yam, Philip Wong Wilson Wong Professor in Chemistry and Energy, Department of Chemistry

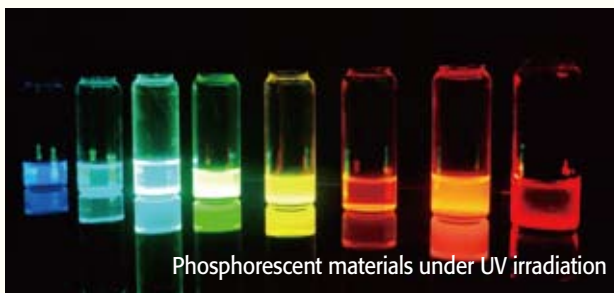
With the huge and fast-growing population and an upcoming depletion of fossil fuels, there is an urgent need and pressing demand for a low carbon or carbon-neutral energy economy. Development of clean renewable energy and new measures for reducing the energy demand are definitely needed to meet the grand challenges. Organic light-emitting diodes (OLEDs) are recognized as a viable candidate for the launching of a more efficient solid-state lighting system, while the discovery and development of efficient organic photovoltaic (OPV) devices for solar energy conversion will have a major impact in addressing the energy issues. However, low power efficiencies, materials and device stability and relatively high manufacturing cost of OLEDs and OPVs present a major challenge for commercialization, and new breakthroughs in the development of new materials and fabrication processes that are much cheaper and more processable for efficient OLEDs and OPVs are highly desirable.

As the Project Coordinator of this project, I integrate multi-institutional and multi-disciplinary efforts from The University of Hong Kong, The Hong Kong Baptist University, The Hong Kong Polytechnic University, and City University of Hong Kong, and the complementary expertise of chemists, physicists, materials scientists, and device engineers to form a team, in order to meet the grand challenges related to energy. We are happy to learn that our research project on "Challenges in Organic Photovoltaics and Light-Emitting Diodes – A Concerted Multi-Disciplinary and Multi-Institutional Effort" has been selected as one of the six projects that have been awarded funding in the first round of RGC Theme-based Research Scheme exercise.

With the funding support of the UGC Theme-based Research Scheme of over HKD 57 million, this project targets to develop libraries of robust, industrial competitive phosphorescent materials and OPV materials, coupled with the optimization of device architecture and fabrication processes, to improve the power efficiencies of OLEDs and OPVs. We have assembled a very strong team that has a competitive leading edge in the proposed areas of research, and many members of the team being holders of a number of innovative US and PCT patents, providing basis for the development of new classes of patentable materials. We believe that the success of this project would not only generate Hong Kong- and China-owned intellectual property (IP) rights, patents and technological know-how, but also creates new opportunities for knowledge and technology transfer to national and international industrial partners. These would definitely promote Hong Kong towards a low carbon economy and the development of a sustainable environment.



White organic light-emitting diodes



Phosphorescent materials under UV irradiation

Brainteaser Questions

The existence of this type of particles was postulated before their discovery. Their properties are very difficult to determine partly because they rarely interact with others. We once believed that they are massless although their precise masses are still not very certain. What are they?



Prize: HKU Centenary Stamps
– Special Gift Pack
Deadline: Dec 9, 2011

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.

Questions and Answers of Last Issue's Quiz:

One hundred years ago, the University was born. Although the Faculty is 28 years younger than HKU, it is also full of history. Let's see how much you know about the Faculty by completing the following quiz:

- 1 The Governor who joined us celebrating the Faculty's 50th anniversary. **Answer: Sir David Wilson**
- 2 The year that the Department of Earth Sciences was established. **Answer: 1995**
- 3 The year that the Faculty office in Chong Yuet Ming Physics Building was opened. **Answer: 2002**
- 4 An alumnus who was one of the most celebrated female Chemist of HKU Science in the 60's. **Answer: Dr Hui Wai Haan**
- 5 A lecture theatre named after an alumnus of the Faculty. **Answer: Professor Rayson Huang**

International Collaboration in Fundamental Science Fermented in Hong Kong

by Dr John K C Leung, Department of Physics



The Daya Bay Collaboration is formed by over 200 scientists from 39 institutes in China, Czech Republic, Hong Kong, Russia, Taiwan, and USA.



The first pair of antineutrino detectors, 5m tall by 5m diameter each, submerged in pure water inside the Daya Bay Near Hall.

Ever thought of an international collaboration in fundamental science been fermented in Hong Kong? In 2003, the first workshop to discuss the formation of a Collaboration for the Daya Bay Reactor Neutrino Experiment (Daya Bay Experiment) was held in the Department of Physics, The University of Hong Kong. The Collaboration now composes over 200 scientists from 39 institutes in China, Czech Republic, Hong Kong, Russia, Taiwan and USA. After

4 years of design and preparation, the ground-breaking ceremony was held in 2007. After another 4 years of building and construction, we finally celebrated the first data-taking from the first pair of detectors just a couple of months ago. The HKU Physics team, including Dr J C S Pun and I, has been active in the Collaboration since its formation, helping to design and build subsystems for detector monitoring and data acquisition.

We don't fully understand neutrinos yet. It has a tiny mass, has 3 "flavors" (electron, muon and tau), between which it can change, a process called neutrino oscillation that is characterized by 3 "mixing angles". The Daya Bay Experiment aims to measure the remaining uncertain smallest mixing angle, θ_{13} , to a high precision of 1%, precise enough for scientists to study the properties of fundamental particles beyond the "Standard Model". θ_{13} describes the transformation of an electron neutrino (or electron anti-neutrino) into a tau neutrino (or tau anti-neutrino), which peaks after an electron neutrino has travelled a distance of about 2 km after its formation. Given these conditions, the best experimental setup on earth for measuring θ_{13} happens to be at Daya Bay! Over there, we have the most powerful single cluster of nuclear reactors (Daya Bay, LingAo and LingAo-II nuclear power plants) producing millions of millions of anti-electron neutrinos every second

through beta decay; the tall mountain nearby provides an excellent shielding to block the penetrative cosmic radiations that can interfere with the anti-neutrino detectors that are placed under the mountain. There are 8 identical detectors, 2 each in 2 "Near Halls" to measure the flux of electron anti-neutrinos generated from the reactors before they oscillate and 4 in a "Far Hall" to measure the remaining flux after oscillation.

We had participated in R&D since 8 years ago and are now responsible for the detector mineral oil monitoring sub-system; the radon in air and in water monitoring sub-system and the detector cover gas sub-system. Together with CUHK, we have been awarded a sum of HKD17M from the RGC for a period of 6 years.

We hope to celebrate again when our Far Hall detectors are ready and the first neutrino oscillation signal is detected in a year's time. But to achieve the required precision, we have to be patient and work hard for another few years.

For more details, please visit <http://dayawane.ihep.ac.cn/>

- 6 The longest serving Dean of HKU Science. *Answer: Professor D Barker*
- 7 The Guest-of-Honour who officiated the Opening Ceremony of the Kadoorie Biological Sciences Building. *Answer: Lady Muriel Kadoorie*
- 8 The year that the total number of HKU Bachelor of Science graduated each year surpassed 400. *Answer: 2005*
- 9 The number of Science alumni who became Dean of HKU Science. *Answer: 3 (Professor S C Chan, Professor C K Poon and Professor K F Cheng)*
- 10 The number of Science alumni who became Vice-Chancellor of the University. *Answer: 2 (Professor Rayson Huang and Professor Cheng Yiu-Chung)*



Aberdeen Tunnel Laboratory: over 20 HKU physics students have contributed to measuring underground cosmic rays, in support of the Daya Bay Experiment.

Undergraduates Got the Chance to Publish Paper in International Prestigious Journal

by Eric M H Wu and Jason H K Wu, 2011 BSc (Physics) graduates.

Eric and Jason are now pursuing MPhil degrees in Physics at The University of Hong Kong, and National Tsing Hua University (NTHU), Taiwan respectively.

2011 April 25 marks a very exciting day for us in our undergraduate lives – our first scientific journal paper entitled “Exploring the Dark Accelerator Hess J1745-303 with the Fermi Large Area Telescope”, led by Professor K S Cheng, Department of Physics, HKU, and his collaborators Professor C Y Hui, Dr R H H Huang, Dr P H T Tam and Professor A K H Kong, was accepted for publication by The Astrophysical Journal of The American Astronomical Society. Being enthusiastic about pursuing a career in astronomy, we are most appreciative of such precious opportunity, making us ahead of our fellow classmates to get our feet wet in a new world. Indeed, we have taken great steps towards our postgraduate studies.

It all starts with the Fermi summer workshop held in HKU last summer. Unlike other overseas academic conferences, the convenience of location allowed undergraduates like us to grab the golden chance and have a taste of research. Professor K S Cheng, our teacher and organiser of this workshop, successfully established the Fermi Asian Network (FAN), gathering young Asian scientists who were interested in the field of gamma-ray astronomy and helped them to build collaboration with each other. We would say it was really an eye-opening experience – we attended a series of talks delivered by astronomers from other universities on their work and publications, and a tutorial session on data processing which equipped us with proper analytical skills. Then, we started to work as summer interns in the Department of Physics and embarked on a long journey of academic research. Thanks to the Department for giving us the opportunity to gain hands-on research experience and participate in a significant scientific research project – the gamma-ray astronomy research project under the supervision of Professor Cheng.



Eric is delivering a tutorial on data analysis in the second workshop.



Jason is presenting his latest findings on supernova remnants in the second workshop.

experienced collaborators of HKU and NTHU, we began to draft the journal paper. This was really a good training for both of us. We needed to circulate the paper around and ensure the accuracy of supporting data. Whenever a mistake was spotted, we would double check, consult other authors and see how we could make suitable corrections. Yes, it was a very valuable experience to us. We have never thought we could also be the authors of a prestigious journal paper like The Astrophysical Journal! Of course, without the inputs and support from other experienced authors, our dreams could not have come true.

This summer, we had got another Fermi Workshop at the National Tsing Hua University in Taiwan. Unlike the first workshop where we only sat there as audience, we had the chance to be one of the presenters on stage, putting their findings on the screen and reacting promptly to challenging questions from audience. With the skills acquired in the first workshop, we were also responsible for conducting tutorial sessions, introducing the fabulous world of gamma-ray astronomy to new-comers. Through interacting with other participants, we developed a close network with other postgraduate students in our field. Apart from academic research, we also spent one extra day exploring the city of Taipei and tried many local street-side snacks. Thanks to our new Taiwanese friends for being our guides. It was really an enriching and fruitful workshop, as well as a valuable chance for cultural exchange.

From the research experience, we realize that research work is vastly

different from undergraduate coursework. It is no way like writing essays and doing assignments – sitting down and grinding using pencil and paper – but a highly interactive world where one has to gather the most updated news, work against deadlines, and prepare yet another piece of news which might be even more astonishing to other fellows in the field.

We are very grateful to our supervisor, Professor Cheng, who provides tremendous support in strengthening our physics background. We would not thank less for the relaxing moments and fond memories with our teammates, who gave us courage to face every challenge in our work.

The journal paper on “Exploring the Dark Accelerator Hess J1745-303 with the Fermi Large Area Telescope” can be viewed at: <http://adsabs.harvard.edu/abs/2011ApJ...735..115H>

We have also published our discovery on gamma-ray emission from a young supernova remnant Kes 17 in The Astrophysical Journal Letters, which can be viewed at: <http://adsabs.harvard.edu/abs/2011arXiv1108.4084W>



Interesting discussion on data processing with a graduate student from UK.

present findings and convey ideas to others. With the guidance of Professor C Y Hui of Chungnam National University, Republic of Korea, and some other



Professor K S Cheng was leading a discussion about future collaborations during the first workshop.

Young Scientists Take the Lead!

by Ng Pun Tung Terence,

PhD candidate of School of Biological Sciences & The Swire Institute of Marine Science, HKU and Chairman of the UCAS HKU committee 2010-2011



The effectiveness of a worldwide scientific research community depends substantially on how everyone collaborates and contributes. However, the sharing of research ideas is not as straightforward as an experienced lecturer can make it appear, since the ability to share and exchange ideas is a trait that is learned through experience. Communication is, therefore, a vital skill that should be taught, encouraged, and rewarded, notably at the earlier stage of academic path. It is with this in mind that the University Consortium on Aquatic Sciences (UCAS) was created.

UCAS is a university network initiated by postgraduates from The Swire Institute of Marine Science (SWIMS) and the School of Biological Sciences (SBS) from The University of Hong Kong (HKU), and State Key Laboratory of Marine Environmental Science (MEL) and the College of Oceanography and Environmental Science (COE) from Xiamen University (XMU) in Nov 2008. It is run by two student committees from each university, with lecturing staff who act as mentors to provide support where necessary. The primary aim of UCAS is to provide a platform for young aquatic scientists to share their research experiences and learn to collaborate together.

Over the past three years, UCAS has organised three joint-postgraduate symposia in which more than 100 young scientists from different universities have benefited from the interactive atmosphere created through various activities such as student presentations, debates, eco-tours and focal group discussions. As a postgraduate driven symposium, it provides

a relaxed and interactive atmosphere to build students' confidence during presentations and encourage interdisciplinary networking amongst aquatic scientists between different institutions both locally and across the region.

The recent 3rd UCAS symposium was held on 11-14 April 2011 and attracted 42 postgraduates from seven universities including HKU, XMU, Institute of Hydrobiology Chinese Academy of Sciences, Ocean University of China, Kyoto University, Baptist University of Hong Kong and National Taiwan University. UCAS is looking to involve more institutes, with hopes of further promoting better science by building an active community of young scientists in South East Asia.

"I was extremely impressed by the interactive atmosphere of the symposium and never imagined that postgraduates can take such initiative to organise a symposium. I won't hesitate to promote UCAS symposium to our institute", said Mr Tang Weixing, a participant from Institute of Hydrobiology Chinese Academy of Sciences.

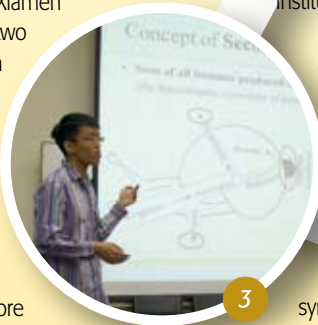
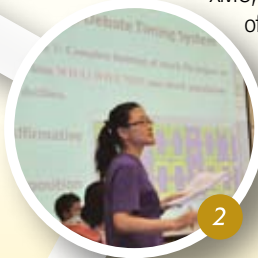
More importantly, the success of UCAS has demonstrated that young scientists can actually take the initiative to create learning opportunities and it shows that such a proactive attitude should be encouraged among young scientists!

We would like to thank Professor Gray A Williams and Professor Minhan Dai for their support and encouraging us to establish UCAS and the postgraduate symposia. We are grateful to all our staff mentors at both universities and we also thank Professor Rudolf Wu, SBS, SWIMS, COE, MEL and Bio-Rad Laboratories for their sponsorships of the 3rd UCAS symposium.

More information on UCAS at our website:
<http://mel.xmu.edu.cn/ucas/index/index.asp>



- 1 Student organizing committees and helpers from HKU and XMU.
- 2 Exciting debate on controversial environmental issues.
- 3 Best presentation prize winner, Mr Yeung Chee Yu Alex from HKU.
- 4 Endless questions from participants.
- 5 Group photo with all participants from the seven institutes.
- 6 Participants visiting Mai Po nature reserve.



ACHIEVEMENTS

External Awards

- ✱ **Professor N Mok**, Edmund and Peggy Tse Professor in Mathematics, was awarded the 2009 Bergman Prize by the American Mathematical Society, for his fundamental contributions in several complex variables and, in particular, in the geometry of Kahler and algebraic manifolds, and also for his work on the rigidity of irreducible Hermitian symmetric spaces of compact type under Kahler deformation, using both analytic and algebraic methods.



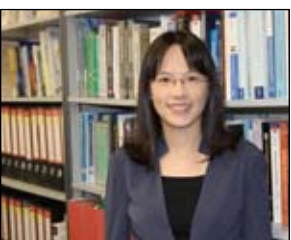
Professor Bergman was Professor at Stanford University 1952-1977 and a key figure in Several Complex Variables in the twentieth century. The Bergman Prize is a prestigious prize in the subject area of Several Complex Variables. Among former recipients of the Bergman Prize are leading figures in Mathematics including Professor Yum-Tong Siu (1993) at Harvard University, and Professor Charles Fefferman (1992, Fields Medalist 1978), Professor

Joseph J Kohn (2004) and Professor Elias M Stein (2005) at Princeton University, all being members of the National Academy of Sciences of the United States. On the Selection Committee for the 2009 Bergman Prize are Professor Ronald R Coifman at Yale University, Professor Linda P Rothschild at University of California, San Diego and Professor Elias M Stein (Chair).

- ✱ **Mr Edward Lau**, an MPhil student of School of Biological Sciences, won the Award for an Outstanding Oral Presentation for Early Stage Postgraduate Student at the 15th International Symposium on Toxicity Assessment (ISTA) held in Hong Kong during 3-8 July 2011. The title of his winning talk was "Thermal tolerance of amphibians and their invasive predator in a polluted environment". Edward is currently undertaking an MPhil research programme on environmental toxicology under the joint supervision of Dr Kenneth Leung and Dr Nancy Karraker at School at the School.

Faculty Awards

- ✱ **Dr A P L Tong**, Department of Chemistry, received the Award for Teaching Excellence 2010-11 for her outstanding teaching performance, her contribution to curriculum development, and the continuous efforts she has put in arousing students' learning interests.



Dr Tong has been instrumental in the research, and key in driving departmental reform towards the new 4-year undergraduate programme. She has spent efforts in studying the old and new high school curriculum and sought graduates' feedback on the Major, which has helped to direct how the curriculum could evolve to meet the society's changing demands.

- ✱ **Dr T W Ng**, Department of Mathematics, received the Award for Service Contribution 2010-11 for his untiring efforts in servicing the University, the Faculty and the Department in past years.

Dr Ng's contribution in a variety of activities, such as serving on various committees at the University and Faculty level, and active participating in outreach activities in the community are well acknowledged. He is also involved in developing the new 4-year undergraduate curriculum for the Mathematics Major.



- ✱ **Mr Sung Yik-hei**, PhD student of School of Biological Sciences, was granted the Award of Excellence by Teaching Assistant 2010-11 for his outstanding performance in providing teaching support and interaction with students.

Mr Sung also received the Honorable Mention for Best Student Paper in Conservation at the 2011 Joint Meeting of Ichthyologists and Herpetologists, a large international conference held in Minneapolis, Minnesota, USA in July 6-11, 2011. His paper was entitled "Impacts of illegal trapping on endangered Big-headed Turtle (*Platysternon megacephalum*)". He conducted a mark-recapture study in five sites of Hong Kong, and found that both adult and small turtles were absent in the trapped sites for this IUCN red listed species, i.e. most populations within its distribution were depleted. The findings might be important for long-term survival and conservation of the populations.

Mr Sung is co-supervised by both Dr N E Karraker and Dr B C H Hau of School of Biological Sciences.



- ✱ The abovementioned Faculty Awards will be presented at the Faculty Graduation and Prize Presentation Ceremony to be held on December 7, 2011 at Kowloonbay International Trade & Exhibition Centre.

LECTURE

- ✱ **September 23, 2011:** "What's Math Got to Do with It?" by Professor Tony F Chan, President and Chair Professor of Department of Mathematics, The Hong Kong University of Science & Technology



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

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