



DEPARTMENT OF COMPUTER SCIENCE

Department of
Computer Science
計算機科學系

NEWSLETTER ISSUE

Greetings from the Head of Department, Prof. Pong-chi Yuen

The Department of Computer Science was founded in 1988 and now consists of 30 full-time faculties and 14 supporting staff. All our colleagues are energetic, dedicated and committed to university education. I am very pleased to serve as the 3rd Head of the Department. Over the years, the Department has been committed to provide quality university teaching and high impact research. Both undergraduate and taught master programmes are well received by students and employers. The research works by our colleagues, especially those under the four departmental strategic research areas, are internationally recognized. The Department also offers a collaborative and harmonious working environment. For all of these, I would like to thank Dr. Ernest Lam and Prof. Jiming Liu, the former Heads of the Department for their great leadership and contributions, putting the Department in a very good shape today.



This newsletter will give you more information on our recent development. Certainly, you are more than welcome to visit the departmental webpage (www.comp.hkbu.edu.hk) to get our latest information. Hope you enjoy reading the newsletter and wish you a fruitful year ahead.

Prof. Jiming Liu Taking Up the Position of Associate Dean

Since 2003, Prof. Jiming Liu has served as the Head of the Department of Computer Science till August 2011. Under Prof. Liu's capable leadership in the past several years, the Department has achieved excellent results in both teaching and research activities. After completion of his third term of service as the Department Head, Prof. Liu took up the position of Associate Dean of the Faculty of Science in December 2011. As Associate Dean, Prof. Liu takes part in various important projects at Faculty level, particularly in the aspects of research activities and postgraduate studies.

We are confident that under Prof. Liu's leadership, both the Faculty of Science and HKBU as a whole will continue to excel in providing quality teaching and achieving research excellence.



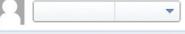
The New Four Year Programmes under 334: CS & CIS

Computer Science and Information Systems are the fields which keep evolving, changing and shaping the way we live, learn, work, and communicate in the society. Also, many world challenges are mostly interdisciplinary in nature. Computing and information systems technologies have been playing a unique role in enabling new possibilities to better manage and leverage data, knowledge, processes as well as computational resources for effective problem solving. Computer scientists focus on advancing the fundamental theories and the latest computing technologies to build more powerful computational tools for the new opportunities. Information Systems professionals focus on building information systems to help solve problems and enable creative applications of Information Technology.

Under the new four year programme, the Department offers two undergraduate programmes: i) **BSc** (Hons) in Computer Science and ii) **BSc** (Hons) in Computing and Information Systems. To build on top of the Science Faculty's common Year 1 study — a general foundation on various science disciplines and their interdisciplinary aspects, our two Bachelor programmes follow IEEE/ACM's model curriculum and provide students with training of international standard in Computer Science and Information Systems. In addition to conceptual knowledge of the Majors, the programmes also emphasize on systems development and offer internship opportunities where students can gain project management as well as communication and interpersonal skills. Students, according to their interest, can also opt for timely specializations like Health IT, Digital Media and Mobile Technology, and Enterprise Systems and Business Intelligence to better prepare themselves for career development or further studies.









New Staff (8)



Dr. HO Edmond Shu Lim Research Assistant Professor



Q -

Mr. CHUNG, Peter Kai Lun Instructor



Dr. LAI, Jean Hok Yin Lecturer



Dr. JIANG, Rebecca Ruixiang Instructor



Dr. SO, Haggen Hau Heng Lecturer



Ms. LO, Sandy Wan Yiu Instructor



Mr. CHAN, Mandel Wai Man Instructor



Dr. WONG, Angel Pui King Instructor

New Facilities

The Department has set up a new iMac laboratory located at FSC901, which houses 29 iMac machines with CPU from 3.33 GHz Core 2 Duo up to i5, 8GB RAM, and high-definition 21.5" LCD monitors. This laboratory is mainly used to support teaching and student course work such as multimedia, graphics and iPhone/iPad application development. Another new teaching laboratory is built up at RRS638 to support courses for both computer science major and non-major students. There are numerous high-end servers in the backend (as application servers and File servers etc.) and high-speed desktop computers (Intel Core i7, 4GB Ram with LCD monitors from 19" to 20") in the front-end.

To provide strong support to research activities, the Department has acquired 20 sets of new high-end research machines, each one with dual 6-core Intel Xeon CPUs and 32GB RAM. A new GPU cluster has also been set up which includes 4 computing nodes, each node with two NVIDIA GTX580 cards and 24GB RAM. In addition, the Department has received a donation of GPU supercomputer with 10TFLOPS of computing power from Inspur Ltd.





Master of Science in Information Technology Management

Master of Science in Advanced Information Systems

In response to the increasing demand for IT professionals in the field of Information Systems, the Department is pleased to offer a new MSc in Advanced Information Systems programme in September 2012. This programme aims to equip students with state-of-the-art technologies and enhance students' competitiveness in a career related to emerging areas of Information Systems. With a curriculum specifically designed to align with the latest industrial trends and emphasize on hands-on experience on IT tools, students will acquire the ability to analyze, evaluate, select and recommend relevant technologies to meet the needs of different enterprises. Upon programme completion, students will be equipped with the necessary knowledge to pursue a career in fields such as enterprise information systems, financial information systems and health information systems, etc.

Individuals who possess a bachelor degree in science, engineering, IT relevant fields or equivalent qualifications and are proficient in English are eligible to apply. Application forms are obtainable from the Office of Graduate School, Hong Kong Baptist University, Kowloon Tong, Hong Kong. Applicants may also apply online at http://www.hkbu.edu.hk/~ar/admissions/post.htm. Applicants can select one-year full-time or two-year part-time study mode. Some classes may be arranged on weekday evenings or Saturdays.

For more information about this programme and the application deadline, please visit http://www.comp.hkbu.edu.hk/ais.

Exchange Opportunity in McGill University, Canada

After reaching an agreement with the School of Computer Science at McGill University, Canada, the Department is pleased to offer an exchange opportunity by nominating two elite students to study in McGill University in the upcoming winter semester (January – April 2013). As an encouragement to elite students for their outstanding academic results and active extra-curricular activity participation, the Department will partly support the expenses of the exchange programme.

As of 2011, McGill University ranked 1st in Canada and 17th in the World in the QS World University Rankings. It is indeed a prestigious opportunity for students to study in such world-class university. We believe that the two nominated elite students will make the best use of this opportunity, and we wish them a very fruitful and memorable experience at McGill!

Exchange and Internship Opportunity in University of Perugia, Italy



As an excellent chance to gain overseas study and research experiences, 3 RPg students, 10 MSc ITM students and 7 BSc students have participated in a 1.5-month study/internship programme organized by the University of Perugia, Italy from 15 June – 31 July 2012. The exchange programme consisted of both seminars and internship modules, while students attended approximately 2 seminars per week and were engaged in a particular internship module every day. Available internship modules ranged from IT projects offered by university units (ITO, University Hospital etc.), to IT

security projects for private enterprises. In accordance with their personal interests and strengths, students were assigned to work on different projects.

Founded in 1308, the University of Perugia (UNIPG) is one of the oldest universities in Continental Europe. Today, it is a modern, multi-campus institution accommodating more than 35,000 students, 14 faculties and 1,100 teaching staff. With a continuous effort in achieving research excellence and establishing collaborative scientific relationships with universities around the globe, UNIPG is well recognized as one of the leading universities in Italy.



Kyoto University - Hong Kong Baptist University Joint Workshop on Field Informatics





Following the opening remarks by Prof. Rick Wong, Vice-President (Research and Development), the workshop consisted of presentations alternately hosted by renowned Japanese scholars such as Prof. Toru Ishida (Kyoto University), Prof. Reiko Hishiyama (Waseda University) and our faculty members. Our research postgraduate students also actively participated in the event. As an excellent opportunity to exchange with top Japanese scholars, the workshop was very well-received by all participants.



On 24 March 2012, about 40 undergraduate and postgraduate students joined the 2012 Hong Kong Science Park Recruitment Day event. As a multi-faceted programme, forums, career talks and walk-in interviews were organized on the event day. Most students found the event exceptionally fruitful.

IS Students Visited HSBC's Data Centre

Forty IS students visited the Data Centre of the Hongkong and Shanghai Banking Corporation Limited (HSBC) at Tseung Kwan O on 15 November 2011. Programmes include briefing on the IT infrastructure of the Data Centre and IT services of HSBC. Students also toured around the operation centre, war room, mainframes and other staff facilities.











All incoming students received a warm welcome in the Orientation Night on 16 September 2011. Under a relaxing atmosphere, they met and chatted with our faculty members and peer tutors who will provide guidance and advice for them in the coming academic years. With the aim of helping freshmen to adapt to University life quickly, the Department will continue to hold the Orientation Night and implement the Peer Tutor Programme.









Fusing Multiple Sources of Conflicting Information Prof. Eugene Santos, Jr.

Professor

Thayer School of Engineering Dartmouth College, USA



Emerging Technologies for High Performance Computing Prof. Jack Dongarra

Department of Electrical Engineering and Computer Science
University of Tennessee



IT in Banking Mr. Max Li

The Hong Kong and Shanghai Banking Corporation Limited



SAP Enterprise Application Mr. Peng GAO

Chief Architect and Director of Product Management,

SAP Business One Global Development and Support Team



Fostering Innovation through Translational Technologies and the Strategic Position of China Dr. Winston P. Kuo

Director, Harvard Catalyst Laboratory for Innovative Translational Technologies

Harvard Medical School



Cloud Computing: It is Shaking the IT Industry

Prof. Weidong Kou

Executive, Cloud, GAS IBM Growth Market Unit



IT Entrepreneurship Mr. Erwin Huang

Deputy Chairman, TSL Jewelry



IT Security Management Mr. Charles Liang

IT Security Policy Manager Information Technology Group CLP Power Hong Kong Limited



Web Intelligence Research in Beijing Institute of Technology Dr. Leijan Liao

Vice Dean, School of Computer Sciences and Technology Beijing Institute of Technology



Differentially Private Data Publication and Analysis

Dr. Yin Yang

Research Scientist Advanced Digital Sciences Center and Principal Research Affiliate University of Illinois at Urbana-Champaign, USA



Cloud and Data Centers in Practices
Mr. Charles Mok



IT Industry Trend Mr. Jeff Ng Guru Online

Recent Externally Sponsored Research Projects

Sponsored by Research Grants Council

Project Title	Principal Investigator	Total Amount
Discrete Integrable Systems and Their Applications to Convergence Acceleration Algorithms	Dr. TAM Hon-Wah	HK\$486,000
Off-line Text-independent Writer Identification of Handwriting Document Using Non-separable Wavelet Transform	Prof. CHEUNG Yiu-Ming	HK\$387,295
Optimizations for the View Update Problem with Emerging Applications	Dr. CHOI Byron Koon-Kau	HK\$329,952
Semantic Access and Characterisation of Web Images	Prof. LEUNG Clement Ho-Cheung	HK\$391,391
Maximizing Lifetime of Sensor-Target Surveillance in Wireless Sensor Networks	Dr. LIU Hai	HK\$440,000
A Decision Support System for Identifying Causes of Delays and Evaluating Impact of Process Improvement Strategies on Cancer Patient Journey Improvement	Dr. CHEUNG William Kwok-Wai	HK\$603,000
Adaptive Filtering for Efficient Subgraph Isomorphism in Graph Databases	Dr. CHOI Byron Koon-Kau	HK\$387,259
Transaction Management for Flash-based Database Systems: Protocols, Implementations and Optimizations	Dr. XU Jianliang	HK\$600,636
Privacy-Conscious Query Authentication for Outsourced and Cloud Databases	Dr. HU Haibo	HK\$911,375
A Stage-varying Methodology That Can Reconstruct the Dynamic Gene Regulations During the Process of Cancer Progression From Stage-course Transcriptional Data	Dr. ZHU Hailong	HK\$1,060,875
Energy-Efficient Data Management with Novel Storage Technologies	Dr. XU Jianliang	HK\$52,000
A User-Assisted Network Coding based Cloud Storage System	Dr. CHU Xiaowen	HK\$500,000
Spatio-Temporal Attestation for Location-based Services Using Private Signatures	Dr. HU Haibo	HK\$690,000
A Computational Method of Inferring Disease Diffusion Networks and its Empirical Validation in Epidemiologic Surveillance	Prof. LIU Jiming	HK\$700,000
Mathematical and Numerical Aspects of Nonlinear Integrable Systems	Dr. TAM Hon-Wah	HK\$452,500
iGPS: Privacy-Preserving Geo-Proximity Services in Location-based Social Networks	Dr. XU Jianliang	HK\$700,000
Multimodal Biometric Template Protection: Template Security and Recognition Performance	Prof. YUEN Pong-Chi	HK\$700,000
Research on Incorporating Feature-level Opinion Mining Outcomes into Modeling/Eliciting Potential Customers' Multi-criteria Preferences and Generating High-value Products' Recommendation in E-commerce	Dr. CHEN Li	HK\$738,087

Sponsored by National Natural Science Foundation of China

Project Title	Principal Investigator	Total Amount
Flash-Memory-Based Database Techniques (Subcontract)	Dr. XU Jianliang	RMB200,000
Recognition of Very Low-resolution Face Images	Prof. YUEN Pong-Chi	RMB600,000
Person Identification and Activity Recognition from Low Quality Surveillance Videos	Prof. YUEN Pong-Chi	RMB200,000



Prof. Jiming Liu was Elected IEEE Fellow

Prof. Jiming Liu was elected IEEE Fellow in 2011 for his world-leading achievements in web intelligence and multi-agent autonomy-oriented computing. IEEE is the largest professional society in the world and has over 395,000 members in 160 countries and regions. The IEEE Fellow is one of the Institute's most prestigious honours and is bestowed each year upon less than 0.1% of IEEE members who have made exceptionally outstanding achievements. This international recognition is indeed a great honour of the Department.

Prof. Cheung Yiu-ming Receives Patent for Infrared-spectrum-based Recognition System for Identifying Chinese Herb Species



Prof. Cheung Yiu-ming and his research team have been developing an infrared-spectrum-based recognition system for identifying Chinese herb species, their origins and modes of growth. With an accuracy rate of over 94%, the technology was granted a Patent Right for Invention by the State Intellectual Property Office of China.

Traditionally, identification of Chinese herbs involves either complicated chemical analysis or experienced personnel capable of differentiating

between different herb species. To simplify the process, Prof. Cheung invented a recognition system for which by examining the infrared spectrum obtained by scanning the herbs, the system can quickly show the relevant macro data of the herbs by identifying the species, their origins and modes of growth, reflecting the genuineness and relative quality of the herbs.

Prof. Cheung said, "The quality of a Chinese herb is greatly determined by its chemical composition. As the quality also closely relates to the origin and mode of growth of the herb, the system offers a fast and simple way to identify the quality of the herb at a macro level by providing timely, relevant data." The system is expected to offer a low-cost identification solution for Chinese medicine pharmacists, food safety organizations or governmental departments and contribute to Chinese herb quality control.

In addition to its applications related to Chinese herb species, the system can further be developed for identifying the relative quality of food and beverages such as the genuineness of milk powder or grading of red wine.



Mr. Tang Chao (Bsc in Computer Science) received the Championship in the 8th Final Year Project Competition organized by the IEEE (HK) Computational Intelligence Chapter.

Mr. Wong Tsz Sang (Bsc in Computer Science) received the Championship of the Hong Kong Information Technology Federation (HKITF) 30th Anniversary Scholarship.

Mr. Wong Tsz Sang (Bsc in Computer Science) received the Asia Pacific Information Communication Technology Alliances (APICTA) Award.

Mr. Wong Tsz Sang (Bsc in Computer Science) received the Silver Prize, **Mr. Kwong Ho Fai Stanley** (Bsc in Computing Studies (Information Systems)) received the Bronze Prize and **Mr. Tang Chao** (Bsc in Computer Science) received the Merit Prize in the HKEIA Innovation & Technology Project Competition Awards for Students of Electronic Engineering or Related Engineering Fields.

Mr. Peng Yuhan (Bsc in Computer Science), Mr. Nian Ke (Bsc in Computer Science) and Mr. Chen Qian (PhD) received the First Runner-up Award at the Association for Computing Machinery (ACM) Collegiate Programming Contest (Hong Kong).

Mr. Gao Shen (Mphil) received the First Class Prize in the 12th National Challenge Cup Contest held at Dalian University of Technology.

Dr. Bo Xiao and **Miss Yee Man Wong** (Mphil) received the Distinguished Paper Award in The 2012 International Conference on E-Commerce, E-Administration, E-Society, E-Education, and E-Technology. Another paper written by Dr. Bo Xiao (in collaboration with a researcher in Netherlands), received the Best Paper Award of the Conference.

Mr. Kai Liu (PhD) received the Best Student Paper Award in the 16th Pacific-Asia Conference on Knowledge Discovery and Data Mining held in Malaysia in May 2012.



Departmental Scholarships for Bsc Students

Computer Science Entrance Scholarship

WAN Tsz On [CS] YEUNG Wing Hei [CS] CHAN Tsz Ho [IS] NG Kwan Chin [IS]

Outstanding Student Scholarship

CHAN Lok Him [CS]
CHONG Chi Yeung [CS]
TANG Tsz Wai [CS]
WONG King Fai [CS]

CHAN Wai Kin [CS]
PENG Yuhan [CS]
TSE Cheuk Yui [CS]
YIN Jiaqi [CS]

WONG King Fai [CS] YIN Jiaqi [CS] YUM Chin Fung Justin [CS] CHEN Wan [IS] MAO Lin [IS] WANG Zi [IS]

ZHOU Yiyun [IS]

Computer Science Department Alumni Scholarship

CHAN Sze Ming [IS] KWONG Choi Ying [IS]

Computer Science Department Alumni Scholarship Certificate of Merits

CHAN Cheuk Chi Jessie [CS] LAU Tsz Wan Iris [CS]

CHEUNG Man Kwan [CS]

Departmental Scholarships for Msc ITM Students

Entrance Scholarship

Song Jiumei Chen Jia Jie He Lili Zhi Ming Zhou Wen Du Wei

Distinction Scholarship (Semester 1, 2011/12)

Du WeiLeung Chi ChungChen JiajieCheng Kwok LeungLiang WeijunLam Shiu FunHon Chun JennyHo Cheung KwokYau Kwok ChauChu Chun Hang EricYeung Ka Cheong WarrenNgan Chi Chun

Lai Wai Kuen Law Tsz Yeung Lau Wai Yan

Merit Scholarship (Semester 1, 2011/12)

Li Ran Zhang Zepeng He Lili Yip Wang Hong Tian Jiwei
Wang Xiaowei Huang Sufei Song Jiumei Liu Zhida Zhi Ming
Xiao Ruiwen Ip Choi Ha Liu Mu Ngai Chi Fung Ip Ting Keung

Lau Kai Chung Au Charn Leung Francis Ngai Siu Wing

Distinction Scholarship (Semester 2, 2011/12)

Du Wei Cheng Kwok Leung Chen Jiajie Chan Wai Hung

Xiao Ruiwen Lam Shiu Fun Li Jinfei Au Charn Leung Francis

Yip Wang Hong Law Tsz Yeung Ngai Siu Wing Ip Ting Keung

Leung Chi Chung

Merit Scholarship (Semester 2, 2011/12)

Li Ran Yau Wai Lok **Guo Ziming** Liu Zhida Lai Wai Kuen Ng Tai Ting Huang Sufei Wong Kam Fat Ngai Chi Fung Wang Xiaowei Yau Kwok Chau Yeung Chik Sin Hon Chun Jenny Ho Wai Ling Jiang Han Wong Kan Ming Tsui Wai Sum Chan Sze Nga Jia Cheng Cao Heng Yeung Ka Cheong Warren Zeng Yue Ma Kwok Fung Lau Chun Yu Lam Ka Yin **Kwok Chi Sang** Siu Po Yee Ip Choi Ha Lee Wai Shun **Cheung Hoi Ching**



The Computer Science Department Alumni Association



form an alumni association. After a 8-month preparation, the Computer Science Department Alumni Association was established on September 18, 2010. As an official association registered under the Societies Ordinance in Hong Kong, it was formed mainly as a means to foster and maintain contact among Computer Science alumni and to advance the interests of the Department. The first Executive Committee comprises of seven members to coordinate the all-round activities of the Association.

The Alumni Association actively participated in the undertakings of the Alma Mater. With the generous participation of the alumni to the Department's IS Freshmen Mentorship Programme, A low alumnus and freshmen ratio was achieved. Each alumnus took care of 3 to 5 freshmen and provided them advices on information systems field, university life and personal growth, etc.



Some alumni attended the annual Final Year Project Poster Session and gave their valuable advices to students on their projects. Following the session was the Graduating Class Dinner in which Miss Cassie Li, an ITM graduate, delivered a speech on job interview preparation.

Prior to the foundation of the Association, the Alumni Scholarship was established in 2009 to recognize and encourage outstanding undergraduate students who have actively participated in services for the Department, University, and/or community. In 2012, two students were awarded the scholarships and three students were presented the certificate of merits.

To further foster the relationship among alumni, a bird watching tour to Mai Po Nature Reserve was organized in March 2012. Participants enjoyed catching up with friends and relaxed in discovering the natural beauty of the Reserve. The event provided alumni a wonderful break from their busy life.

The Association currently has 63 members. The years of graduation range from 1989 to 2010. In a recent membership recruitment campaign, over 130 applications were received.

The success of the Alumni Association depends on the full support from our alumni. If you are a HKBU Computer Science Department graduate but not yet enrolled in the Association, please join us now! The application form can be obtained from the website,

http://www.comp.hkbu.edu.hk/~alumni/association/asso7.php

Miss NG Wing Yu, Donna

Time flies - I could hardly believe that I am graduating and heading to another stage of my life. I can still remember the moments when I had my JUPAS interview in the department three years ago. It was nice to have the chance to embark on my studies in the field of computer science at HKBU. The Computer Science Department here is approachable, friendly, enthusiastic and supportive. Through my undergraduate studies in the Department, I realized how much I enjoyed this collaborative and everchanging field. The Department equipped me with methodological and systematic problem solving skills, specifically the concept of abstraction. It has also equipped me with tools, a network of friends, potential collaborators, and both industry and research experience. I will be joining Credit Suisse as a Technical Analyst soon. I am sure that my gains in the Computer Science Department can help me thrive in my career.





Mr. ZHAO Yize, Moss

I am this year's graduate of Computing Studies (Information Systems). I had a phenomenal time studying in Hong Kong Baptist University. During the past four years, I was exposed to endless amount of academic opportunities as well as extracurricular activities. From day one of my undergraduate, I felt the caring and friendly environment in Computer Science Department. The professors always welcome questions and discussions; our supporting staff work vigorously to ensure each student enjoy the best resources. We learn not just from famous scholars and from each other as well – in classrooms, in computer labs, and over the dining table. One good example is doing Group Project in the second year of study. By working closely with four peers, I gained a wide range of project management skills such as requirement gathering, resource planning, and software testing. With the university's vision of Whole Person Education, we all become better citizens when we complete our memorable undergraduate study.



Mr. PEI Ke Xin

My university life can be roughly divided into 2 parts, life in HKBU and exchange life in SUNY Albany. My experience in SUNY Albany was really unforgettable and was very different from that in HKBU.

I made a lot of friends there and spent much more time on my interests. I started training my muscle through going to gym every day; I spent nearly 3 hours a day to practice piano pieces; I played basketball every week, and I was really amazed at people who could dunk so easily; I have also been to Boston and visited the famous institutes of Harvard and MIT. Among all these, the most impressive experience was visiting New York City. The city is flourishing at night – the 5th Avenue, Time Square and Empire State building embellished the beautiful night of New York, infatuating millions of travelers. Yet, sometimes life was filled with regrets – my favorite NBA team was "locked out" when I was in America.

The exchange life in Albany was unforgettable, and yet too short. Talking back about my life in HKBU, I always followed my interest to choose free elective courses. Although I could not spend as much time on interest as in SUNY Albany, I attended the University Symphony Orchestra with the experience of playing with a very large orchestra instead of just playing solo. I also took the Chinese Literature Course and the lecture of Mr Yu Qiuyu which talked about the Chinese Ancient celebrities. Though I did not get extremely good results in these courses, I'm still proud of the fact that I fulfilled the concept of HKBU---Whole Person Education.

Editorial Board

William K. Cheung, Letty Kwok, Brian Lee, Kenneth Cheng

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