



Newsletter 中大統訊

香港中文大學
Department of Statistics, The Chinese University of Hong Kong

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MESSAGE FROM THE CHAIRMAN



Dear Alumni and Friends,

It is time to share with you the latest developments and news of the department again. In the midst of the global financial tsunami, this may be a good time for statistics as a subject, but not necessarily for statisticians as a profession. I wish all of you acquire a solid helm to sail through these unprecedented storms. But in situation like this, we can really appreciate the relevance and importance of Statistics and Risk Management.

The department has gone through a lot of changes during 2008. In the pedagogical front, a new double major programme in Quantitative Finance and Risk Management Science has just been launched. This is a newly established interdisciplinary joint venture between the Finance and Statistics departments and it is supported by the UGC. Around twenty new students will be admitted in the fall of 2009. On the postgraduate front, the MSc. Programme in Data Science and Business Statistics completed its programme review exercise in March 2008 and the result is very good. I would like to take this opportunity to thank the programme review panels and the alumni for their efforts and constructive suggestions.

There are also a number of changes in the human resources front. Dr. FAN Xiaodan, a graduate of Harvard University, joined the Department in August. Professor H.Y. Wong has been promoted to Associate Professor since August. Congratulations to Professor Wong! Professor C.Y. Leung will be retiring from the university in January 2009 after serving CUHK for an extended period of time. May we wish Professor Leung a happy and healthy retirement! Miss Iris Chan Wan Wai, joined the department as the project coordinator in June. Mr. Choi Ngan Lung, the laboratory assistant of the department retired in August while a new office assistant, Miss Lee Yuk Ping, joined the same month. We also wish Mr. Choi a pleasant and healthy retirement.

With coordinated efforts from a number of faculties, students are able to take part in various activities. An internship training programme was launched in the second semester 2007-08. Four students were selected to undergo vigorous training in banks, including Standard Chartered Bank and Dah Sing Bank, for eight months. They have gained valuable hands-on experience in the banking sector. In addition, a Statistics undergraduate, Yang Nuen Tsang, enjoyed a summer stay at Colorado State University. To learn more about these and other student activities, please read on.

We are also excited to know that a student has won a competition called Barclays Capital Technology in 2007. Furthermore, some of our fresh graduates have embarked on promising careers, such as BNP Paribas Hong Kong and HSBC Global Markets. To know who they are, please turn to pages 7 and 8.

I sincerely hope you would enjoy reading this issue. Please share with us your valuable comments and suggestions.

Sincerely,

Ngai Hang Chan

Chairman and Professor of Statistics

PERSONALIA

Appointments

➤ **Dr. FAN Xiaodan** (樊曉丹博士) has joined the department as Assistant Professor since August 4th, 2008. Dr. Fan received his M.A. and Ph.D. degree in Statistics from the Harvard University. Before that, he got his B.E. in Automation and M.S. in Pattern Recognition & Intelligent Systems from Tsinghua University. Dr. Fan's research interests include probabilistic modeling, statistical computing, pattern recognition, and computational biology/ bioinformatics.



➤ **Miss Iris Chan Wan Wai** (陳蕙慧小姐) has served as Project Coordinator in the department since June 16th, 2008.



➤ **Miss Lee Yuk Ping** (李玉萍小姐) has served as Office Assistant in the department since August 1st, 2008.



Promotion

➤ **Prof. H.Y. Wong** has been advanced to Associate Professor since August 1st, 2008.



Retirement

➤ **Mr. Choi Ngan Lung** has retired from the post of Laboratory Assistant since August 1st, 2008.

AWARDS

Long Service Award of CUHK

Prof. K.H. Li was awarded the Long Service Award of the Chinese University of Hong Kong. We thank Prof. Li for his devotion and contribution to the department.



Exemplary Teaching Award of Faculty of Science

Prof. N.H. Chan received the Exemplary Teaching Award of the Faculty of Science 2007/08.



Poster Award of the Expo "Excellence Online"

Prof. S.H. Cheung, Prof. W.Y. Poon and Prof. K.H. Wu received the Poster Award of the Expo "Excellence Online", which was organized by ITSC and CLEAR, CUHK.

PROGRAMME REVIEWS

The MSc in Data Science and Business Statistics programme completed the programme review exercise in March 2008. We are pleased that the programme is rated "Very Good" by the review panel. We would like to thank the review panel for their constructive comments to enhance the teaching and learning quality of the programme. In addition, the result of the programme review for the undergraduate Statistics programme has been released and the programme is rated "Very Good". We will keep up the good work and continue to strive for excellence in teaching and learning.

ADMISSION HIGHLIGHTS

Both the Statistics programme and the Risk Management Science programme (RMS) have experienced a fruitful year in terms of admission in 2008-09. The WGPA of both programmes have improved remarkably. The self-financed programmes continue to receive many applications from high caliber applicants. Please find the admission figures below:

Undergraduate Programmes	No. of Students				
	JUPAS	Non-JUPAS (Mainland)	EAS	2nd Year Entrant	Total BSc
Statistics	43	--	1	1	45
RMS	17	7	5	--	29
Total	60	7	6	1	74

Postgraduate Programmes	No. of Students
MPhil in Statistics	5
Ph. D. in Statistics	4
MPhil in RMS	5
MSc in Data Science and Business Statistics	43
MSc in RMS	31

ACTIVITIES



Press Conference

To mark the launch of double major undergraduate programme in Quantitative Finance (QFN) and Risk Management Science (RMS), a press conference was held on October 19th, 2008.

The inter-faculty double major undergraduate programme in QFN and RMS is offered by the Chinese University of Hong Kong, a pioneer in the education of these areas in the territory. The existing QFN and RMS programmes were launched respectively in 1998 and 2000. Both continue to skim the cream of applicants to the Faculties of Business Administration and Science, and to attract both local and mainland students.



By launching the QFN/RMS double major programme to meet the challenges posed by the financial tsunami, CUHK continues to spearhead higher education in Hong Kong. The programme combines the strengths of the Faculties of Business Administration and Science, and is fully supported by the University Grants Committee. It inculcates state-of-the-art knowledge in finance and risk management, statistics and business.



The JUPAS code of the programme is 4276. The first batch of students will be admitted in 2009 and graduated by 2012. Only 20 seats are offered, so competition is expected to be keen. For details of the programme, please visit: <http://www.sta.cuhk.edu.hk/DQR/>

Conference

Prof. N.H. Chan and Prof. H.Y. Wong participated in The Mathematics and Statistics of Quantitative Risk Management Conference at Oberwolfach, Germany during March 16th -22nd, 2008.



Prof. N.H. Chan



Prof. H.Y. Wong

Seminar

The department collaborates with universities worldwide. Regular seminars are held by renowned statisticians. For more details, please visit our website at <http://www.sta.cuhk.edu.hk/Dept/Seminar/Seminar.htm>



Alumni Activities

The Alumni Association of Department of Statistics has successfully held a BBQ Funday (「一統燒烤」同樂日) on November 1st, 2008 at a café in Mongkok. Over 40 alumni participated in the event.

This event has provided an excellent opportunity for alumni to mingle, share and update news with each other. They exchanged information, such as the latest market trend and the recent developments of the Department of Statistics, with each other. It was an enjoyable and delightful day. To view more photos, please visit <http://www.facebook.com/album.php?page=1&aid=174749&id=636225787>

Annual Dinners

The Annual Dinner of the MSc in Data Science and Business Statistics Programme

The programme held an Annual Dinner on February 16th, 2008 in Prince Hotel. The event provided an excellent opportunity for teachers and students to interact.



The Annual Dinner of the MSc in Risk Management Science Programme

The programme held an Annual Dinner and Award Presentation Ceremony on May 17th, 2008 in Prince Hotel. Scholarships and prizes were presented to academic outstanding students.



STUDENT ACTIVITIES - INTERNSHIP

The Department has always been committed to providing quality teaching and enriching students' learning experience. Over the past years we strived our efforts in exploring opportunities to enrich students' learning experiences, for example the internship training programme and the exchange programme. We take pride to learn that these opportunities have helped extended students' potentials and enable them to develop to the fullest. Here we highlighted some of the activities.

Internship at AirGini Asia Pacific Limited

With staff's endeavour, two Statistics undergraduates had internship placement at AirGini Asia Pacific Limited to survey and reveal insights from the perspective of mobile users and mobile advertisers.

Here are comments from Ms Wendy Tam, Chief Products Officer of AirGini:

"... We are honoured to work closely with Professor Isabella Poon and Prof. S.H. Cheung of the CUHK Statistics Department. Moreover, we are very satisfied with the quality and quantity of the market research tasks completed in a mere two months' time. A big thank goes to our 2 undergraduate student interns..."

"...These students have demonstrated not only expert analytical knowledge, but also a high degree of professionalism to provide AirGini with market insights and actionable recommendations."

(Source: Small Enterprise Connect, Hong Kong Science and Technology Parks, December Issue, 2007)

Chen Jianxi



在渣打的時間，短暫卻充實。我沒有懷疑過這八個月值得與否，從第一天入職到現在，細細回憶起來，著實覺得自己是有收穫的。人不是每天喊著長大就會成長，成長是一次次犯錯，一次次改正中慢慢領會。

大學教授的並不完全是專業知識，更重要的是思考和交流。雖然工作與所學關聯不大，但依然是對這兩種能力的考驗。從一開始的學習SAS Program，到熟悉銀行中各種產品，再到正式接手一些工作中，每一個步驟看來都新鮮卻需要小心應對。作為實習生，基礎的工作自然少不了，我需要定期做報告給Marketing部門的同事參考，除此以外也會參與一些推廣，篩選一些符合條件的顧客給以獎賞等等。不知不覺也接受了不少小項目，每次看到街上的銀行產品廣告想到自己有份參與，雖然只是不起眼的工作，但也會感到挺開心。

在工作時，除了用到統計的知識以及編程之外，如何與市場部門的同事溝通，討論也很重要，他們的要求和條件要一一談仔細，有時也需要一些小技巧使大家的意見達到一致，這些與學校裡的project有相似卻

也有不同，畢竟返工的時候所做的事情附帶著責任。

工作之餘，同事之間的關係也是很融洽的，經常聊天緩解疲勞，也時常一起吃飯為同事慶祝生日，尤其慶幸的是與一班實習生成為了知心好友，大家一起經歷由陌生到從容的過程，一起努力成長，實在是段難忘的經歷。

Felix Cheung Wing Cheong

I was so fortunate to be able to join the internship training programme in DBS Bank through the Department of Statistics. I worked in "Customer Experience Management" (CEM) department under the Consumer Banking since January 2008. All the student interns, including me, were titled "Co-op student" in the bank.

During the internship period, my routine work included preparing some data report which was a kind of consolidation of data, e.g. CEM update report, Dashboard report. In addition to the routine work, I was assigned to perform some special tasks. One of them was programming with Excel macro. The programmes were used for inputting and searching complaint cases in a database. Through this task, I have learnt the way to cope with new software and I have improved my programming skills, in particular in debugging and minimizing the time of programme running. My supervisor also inspired me to design a programme which was user-friendly.

The second task was to construct a webpage for reporting research. I was asked to think of a way to effectively communicate the data to users, including some lay persons. I needed to pay attention to the format of the web pages and to ensure that they were consistent. Through this exercise, I have acquired some reporting skills.

During the internship, one important skill that I have learnt is the way to communicate with my colleagues. At the beginning, I could not understand my colleagues' expectations, such as the deadline, quality, quantity and etc. After some time, I started to ask more about their expectations on me. I gradually knew what to ask, how to ask, and when to ask a question. Now I can cooperate efficiently with my colleagues.

All in all, joining the placement internship programme in DBS has helped me broaden my scope of horizon in banking industry and understand more about interpersonal relationship. I have learnt a lot during the internship period.

 **Wong Sheung Yu**

During my suspension of study, I entered a well-known bank - Standard Chartered Bank – and started my life as an intern at the Market Research Team in the Strategic Business Decision Department.

The Market Research Team in SCBHK does not do the survey on its own. Upon requests from departments, it contacts the research agency which designs the questionnaire and conducts the surveys.

For the first few months of my internship, I did some more mechanical tasks such as reading PowerPoint reports for previous campaigns, photocopying and data entry, etc. Not until March did I handle a project for Frontline Experience. It was an online survey for staff. I had to set up the questionnaire in a website called “Zoomerang”. I made some minor mistakes in this project but I built up my confidence in the process.

My second project Mortgage Customer Satisfaction was launched in March and that was the first time I met the other departments and the research agency. To ensure the quality of the interviews, my colleagues and I went to the office of the research agency for real time monitoring by listening to the phone interviews conducted by the research agency. The experience was new to me and I found that people were generally reluctant to do a survey. Moreover, I learnt more about the situation of secured lending in Hong Kong from that survey of Mortgage Customer Satisfaction.

Life was hard after the second project. My workload was heavier since two of the team members left. I had to amend the programs in SAS and also check the reports generated by the research agency. In addition, I had to write reports on advertising evaluation on my own since all the other team members were busy with their work. Having limited ideas and knowledge of report writing, I prepared myself by reading a lot of reports seriously. However, it was a good training for me as I had always been afraid of writing!

Apart from working hard, we had one big activity in early July which we called “FUN DAY”. On that day all the staff from the same department gathered together to have fun. I was one of the committee members for this activity.

You may ask: Did you gain any experience of risk management from the internship? My answer is: Just a little bit. I do see the bank handles customers’ data with great care and does everything to prevent reputational risk, especially for the market research team. What I learn most in this internship is the variety of banking products in Hong Kong, the structure of a bank and the way to put ideas in practice. We should know the financial market and products well before putting the models in practice. This basic knowledge is important for my road to finance or risk management.



 **Trudie Chan Sze Ting**

I have worked in the “Wealth Management Team” in Standard Chartered Bank for eight months. During these months, I was assigned to perform different tasks. Running some regular MIS reports

was one of my duties. Besides, I needed to involve in various kinds of campaigns and fulfillments aiming at attracting more investments. I also conducted some analyses which were necessary to evaluate the factors affecting the response rate and I involved in meetings. Attending meetings not only could widen my horizon in compromising opinions, but also learn how to pluck up my courage to express ideas in front of managers and even department head.

Participating in large-scale campaigns was petty harsh for me at first because each of these campaigns involved different kinds of complicated and unfamiliar investment products, billions of transaction amounts, millions of coupon amounts, to name but a few. Undue pressure made me more nervous and I was not detail-minded enough to finish the jobs without careless mistakes. After having assisted and encouraged by my teammates, I tried to think more in-depth and be more careful to avoid any faults. I therefore, find that support from teammates is very important. Although sometimes I have to work overtime, other student interns warmly supported each other to overcome this hardship.

One of the most memorable things was the process of changing seats for the entire floor. The day before moving, the office was doubly noisy than before. Every one was busy in picking all their belongings in the boxes provided instead of working. All colleagues kept on talking for the whole day and it was the only day that all of us could call off the day on time (we were even urged to leave).

I gained a lot from the internship training program at the Standard Chartered Bank. This job was not easy for me in the beginning as I had limited knowledge about SAS programme and the operation of bank. Fortunately, my mentors and colleagues were warmly willing to help me in all aspects. Being one of the participants of the programme was definitely a valuable experience. I have gained confidence, friendship and work experience, improved fluency in communication using international languages, learnt how to accept faults, how to find solutions and the importance of team spirit. In addition, I have known myself better after joining the programme. It is clearer for me to find my interest and decide my career path in the near future. It is a valuable opportunity that I can acquire real life working experience and decide my career path before graduation. With this experience, I can be more well-prepared for my desirable job.

SUMMER EXCHANGE PROGRAMME IN COLORADO STATE UNIVERSITY

**Yang Nuen Tsang**

What should we do during summer vacation? Take summer courses? Apply an internship? Travel with your family? As for me, I chose to prepare for my graduate school. Since I am going to be a year 3 student, it is time to decide what I need to do after my graduate.

I know that the knowledge acquired during undergraduate study is mainly given for the undergraduate students who are preparing for a job related to statistics after graduate. Thus, the knowledge is very general and basic. However, I'd like to learn the in-depth knowledge of statistics, thus I decide to study for a master's degree in statistics after graduate.

The Department has organized a summer exchange programme at Colorado State University (CSU) for statistics students who would like to enroll in graduate school in the future. I am glad to be selected to join the programme this year. During the exchange period, I met a lot of experts on statistics and learned many skills to conduct a research through the programme.

In CSU, I needed to conduct a research about classification of genes. I wrote some programmes for classification by graphs. In addition, I read some papers about the methods used in the past to calculate the distance matrix, which is used to identifying which class a group of genes belong to, to create some new methods to define a distance matrix. This is my first time to work on

research. I was so excited when I was working on it. I know that this experience is vital for my research work in the future.

Besides, I also attended in the Graybill Conference VII. This conference focused on biopharmaceutical statistics and brought together leading researchers in the fields of clinical and non-clinical statistics. In the conference, I met a great deal of people. I had talked to Prof. L.J. Wei of the Harvard University about his research topics and his thought of statistics. Although I could not understand all of his research topics, I was so pleased to hear his advice and suggestions for studying the master's degree in statistics. All in all, this exchange experience has a profound effect on my future research work.

I tried many new things during the exchange period. I lived in Fort Collins, one of the cities in Colorado. It is a very lovely and peaceful place. People are very nice. For example, the graduate students in CSU would drive me out to buy food every week. One of them borrowed a bike to me. Apart from that, the professors in CSU are very friendly. The most vivid memory is that I made a group of new friends who were not studying in statistics but students in CSU. They invited me to their home to join birthday party and watched the fireworks on the roof of their house in Fourth of July. Besides, I met a French teacher who is an American. She brought me to watch the parade in Fourth of July and went to Rocky Mountain National Park. She also invited me to her house to have lunch. Thus, I can say that people in Colorado are really nice. There are also many intriguing experiences such as riding horse with French students, Taste of Fort Collins, Concerts and so on. I will cherish the memory of those days. Since, one of my dreams is studying in USA. Thus, I am so glad I can experience the life in USA in this vacation.

I would like to thank the Department of Statistics for their subsidization on my expenses. Besides, I would like to thank Professor Thomas Lee for his organization and looking after me in Colorado. He helped me borrow many tools from the secretary before I had been there. Also, he brought me to many places there.

All in all, this is really a good programme for any student to join, especially the one who would like to further study after graduate. For the sake of achieving my goal, I will work hard on preparing for my graduate school. I am glad I could participate in this exchange programme. I hope it can be continued in the coming years.



BARCLAYS CAPITAL TECHNOLOGY COMPETITION



Simon Wong Shiu Fung

Barclays Capital launched a competition called Barclays Capital Technology in October 2007. Participants are required to create an engine that will generate valuation and market risk numbers (greeks) for a portfolio. The portfolio may consist of several different types of interest rate and foreign exchange trades. These trades include some simple interest rate forwards, interest rate swaps, interest rate swaptions, forex forwards, forex forward swap and spot swap, etc. This engine has to be very effective so that a trader can quickly assess the value and potential risks associated with entering a particular financial agreement.

We realized that this competition required comprehensive knowledge on different fields, finance, risk management, information technology and computer programming. We therefore tried to invite team members from different disciplines. We formed a team of four with one Risk Management Science student from CUHK, who is me, one Information Engineering student from CUHK and two Computer Engineering students from HKUST.

The challenge was in two parts; a written proposal and a final presentation for three successful teams. We were required to present our ideas to fulfill the aforesaid requirements in the written proposal by 2000 words and submit it by the end of January 2008. The largest obstacle is word count. We need to put all our ideas including approach and methodology, project frameworks, test use cases, system designs, error handling, extensibility and project management in a nutshell.

Our approach is to use interest rate tree model to simulate the possible future interest rate paths and calculate the prices and greeks. We used Hull-White Model and Black-Karasinski Model as our core interest rate model. It is known that the calibration processes of these tree

models are very computational intensive. We adopted parallel computing so that the calculations can be delivered to a cluster of computer in order to boost the speed. Fortunately, we were chosen to be the finalist after the first round assessment.

In the final presentation, we have to present a working model of our proposal solution. When we were informed to be the finalist, it was exactly one month away from the presentation day. It is definitely a great challenge to finish the whole computer program and build a cluster of computers to demonstrate our proposal in one month with limited manpower.

The presentation was held in the office of Barclays Capital in Singapore. After burning a week of midnight oil, we finished our program right after we reached Singapore. On the final presentation day, we met the other two finalists, one is a team of four from HKUST and the other is a team of two from University of Singapore.

Our work was acknowledged by the judge board. The judge board mentioned our project as promising and commercial viable therefore we won the champion of the competition.

The prize was round trip airfare to London with one week accommodation, Barclays English Premier League Category 1 tickets and cash prize of \$1500SGD for each member.

This competition gave me a very good opportunity to integrate my knowledge in risk management, finance and information technology in the same product. Apart from applying what I learnt from lectures, I learnt how to communicate with computer engineers with limited financial knowledge and explain the requirements to them. What I gain is much more than the physical prize, but also the spiritual comfort and confidence of putting theories into practical use. I would like to express my sincere thanks to Dr. Wong Hoi Ying for his valuable advices in pricing and risk evaluation of ranges of products.



“ I am glad to hereby share my life in the Risk Management Science programme and job hunting experience. Majoring in risk management science exposes me to a broad spectrum of academics, including statistics, finance, economics and computer science. Particularly, I found the newly added courses “Special Topics in RMS” very insightful and interactive. These equip us not only with technical and analytical side, but also the ability to communicate and convey our expertise to the general public.

Having started the graduate trainee programme in the bank, I work as an analyst to handle various projects to streamline the business processes while minimizing the operational risk and strengthening control within corporate banking. The project-based team structure requires teamwork and independence, analytical thinking and proficiency in multi-languages.

To be successful in hunting your dream career, it is essential to understand what your strengths are and what makes you capable for the job. Also, occasionally you will face tough questions, remember never panic and be smart! There are always tricks to turn around the corner and impress your interviewer with your intelligence. Fluency in English and Mandarin is always advantageous if you wish to take up front-line positions.

Wish you all good luck in your endeavors. ”



Angel Leung Wing Sum, BSc. in RMS (2008)
APAC Business Process Improvement, BNP Paribas Hong Kong



“ One of the department graduate students, Mr Tony Sit, was awarded Sir Edward Youde Memorial Fellowship for Overseas Studies 2008-2009. A total of eight fellowships have been awarded to students from the local tertiary institutions 2008-2009. Tony was a BSc and MPhil (RMS) graduate of the department and is currently pursuing his PhD at Columbia University. His MPhil supervisor is Prof. Ngai-hang Chan and they worked on problems on Value-at-Risk, a celebrated risk measure in Econometrics and Finance. Further information about Sir Edward Youde Memorial Fund Scholarship Schemes can be found at http://www.sfaa.gov.hk/eng/scholar/scholar_seymf.htm

“It is my great honour to be selected as one of the scholarship recipients. I would like to attribute such a success to the comprehensive and rigorous training that I received during my study in the department. The chances of being able to work with world-renowned professors, to get a taste of a well-blended theoretical and practical fronts of statistics and finance are something invaluable in my life,” remarked Tony. ”

Tony Sit, MPhil in RMS (2008)

“ The RMS program is extremely useful and it well prepares students who are interested in the banking sector. The program has helped me develop comprehensive financial knowledge through its wide array of courses in finance, computer science, mathematics and statistics. The RMS program emphasizes on scientific reasoning and quantitative approach to finance, which have become ever important in the financial industry today. And I find the program’s quantitative aspect very beneficial to my current role on the FX derivatives desk.

But remember, the program gives you a leap forward to a banking career only, and the rest is up to you. Exchange program, internships, foreign languages, reading financial news, discussion with classmates and professors are all important factors for your personal development as well as for launching a banking career. ”

Richard Cheng Ho Yu, BSc. in RMS (2008)
Analyst, HSBC Global Markets

ALUMNI ASSOCIATION OF DEPARTMENT OF STATISTICS, CUHK

Alumni Website

We are pleased to announce that the Alumni Association of Department of Statistics, CUHK has been established in July 2008. Please visit the alumni’s website at <http://alumni.sta.cuhk.edu.hk>. To register as a member, please download the application form from the website or email us at alumni@sta.cuhk.edu.hk.