



# Newsletter 中大統計訊

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,

Things have certainly changed during 2008/9. The economic mess spilled over into every aspect of life, and our department did not escape. The past year had a number of bright spots to take our minds off the gloom, however. A number of celebrations have occurred in the past year, some more related to the department than others.

As we all know, Professor Charles K. Kao, a former VC of CUHK, was inaugurated as a Nobel Laureate in Physics this fall. This is indeed a distinctive honour not only for CUHK, but also for the people of Hong Kong; more about this latest news is available on the home page of CUHK. Closer to our department, one of our former Chairmen and currently one of our Adjunct Professors, Professor Wing Hung Wong was elected as a member of the National Academy of Sciences in the USA this spring. Professor Wong was one of the only two statisticians elected to the NAS this year. On the home front, Professor Thomas Lee was elected as a Fellow of the American Statistical Association this fall and Professor N.H. Chan was elected as an honorary member of the Hong Kong Statistical Society this spring. Our heart-felt congratulations to all these exemplary achievements of our colleagues!

The current year promises to be exciting in the department. We inaugurated a new Interdisciplinary Major Programme in Quantitative Finance and Risk Management (formerly Double Major programme in Quantitative Finance and Risk Management Science) this fall. The programme admitted the first batch of students in September 2009 with stellar admission results; it was ranked the second best among all the programmes in CUHK. Likewise, the admission results of the RMS programme in the midst of the financial crisis was outstanding; it was ranked the best within the Faculty of Science and the eighth among all programmes at CUHK. More exciting is that the Statistics programme continued to enjoy a highly successful admission exercise this year and we expect this rising trend to continue. All these successes were consequences of concerted efforts from faculties, colleagues and students alike, but most importantly from distinguished alumni like you, who helped us spread the good words around. My deepest gratitude goes to everyone who helps us realize these goals.

To enhance the teaching and learning environment, the department upgraded the PCs and servers of the labs in the summer of 2009. Considering many illustrious people have spilled ideas and thoughts in the lab over the past years, we offered the retired computers to the recycling agency.

There are also a number of changes in the human resources front in our department this year. Professor Xinyuan Song was promoted to Associate Professor in September 2009. Ms Iris Wan Wai Chan was promoted to EOII in mid-June. Congratulations to both Professor Song and Iris! We were also excited to know that a number of faculties have been awarded honors and prizes; some of our alumni embarked on promising careers or continued their studies in local and overseas universities. To know who they are, please read on.

I sincerely hope you enjoy reading the newsletter. Please share with us your valuable comments and suggestions.

Sincerely,

Ngai-Hang CHAN  
Chairman and Professor of Statistics



## Annual Dinner



The Annual Dinner of the M.Sc. in Data Science and Business Statistics Programme was held on 21 February 2009 at Prince Marco Polo Hotel. Programme Director Professor Poon Wai Yin welcomed the 100 teaching staff, students and alumni that attended the event. Games and lucky draws were held and all the attendants had an enjoyable evening.

The Annual Dinner of the M.Sc. in Risk Management Science Programme was held on 9 May 2009 at Royal Plaza Hotel. Programme Director Professor Chan Ping Shing welcomed the 55 teaching staff, guest lecturers, students and alumni that attended the event. Scholarships and trophies were presented to five 2008 graduates with the best academic performance. All the attendants had an enjoyable evening.

## Friendly Tennis Match 2009

To foster closer relationship with the industry, the Department joined the Friendly Tennis Match 2009 that was organized by the Hong Kong Statistical Society. All participants enjoyed the event and spent a joyful day at the tennis court.



Prof. Chan Ngai-hang and the winners of the match



Participants of the Friendly tennis match 2009

## Visit to Census and Statistics Department, HKSAR

To enhance students' knowledge of the statistics profession, the department organized a career visit to the Census and Statistics Department (C&SD), HKSAR on February 24, 2009. Students visited various sections of the C&SD, including the library, publications sales centre and the service centre on trade statistics.





## Seminars

<i>Date</i>	<i>Speaker</i>	<i>Title</i>
July 8, 2008	<b>Professor Yacine Ait-Sahalia</b> Princeton University	Estimating the Degree of Activity of Jumps in High Frequency Financial Data
September 29, 2008	<b>Prof Shuo-Yen Robert Li</b> The Chinese University of Hong Kong	Martingales of Patterns
October 28, 2008	<b>Prof Xiaole Shirley Liu</b> Harvard University	ChIPing the Human Cistrome
November 4, 2008	<b>Prof Minggao Gu</b> The Chinese University of Hong Kong	Market Efficiency and Investment Strategies, A Case Study of Hong Kong Racetrack Betting Market
November 18, 2008	<b>Prof Jane-Ling Wang</b> University of California, Davis	Joint Modeling of Longitudinal and Survival Data
December 2, 2008	<b>Dr Piotr Fryzlewicz</b> University of Bristol	The Dantzig Selector in Cox's Proportional Hazards Model
December 17, 2008	<b>Professor Jianqing Fan</b> Princeton University	Impact of Dimensionality and Correlation learning
January 13, 2009	<b>Professor Richard A. Davis</b> Columbia University	Spatial Models with Applications in Computer Experiments
January 16, 2009	<b>Professor G Tunnicliffe Wilson</b> Lancaster University	Empirical States for Time Series Prediction
March 3, 2009	<b>Professor Chunqi Chang</b> The University of Hong Kong	Network Component Analysis for Gene Regulatory Network Reconstruction from Microarray Data
March 17, 2009	<b>Professor Xingqiu Zhao</b> The Hong Kong Polytechnic University	New Multi-sample Nonparametric Tests for Panel Count Data
March 19, 2009	<b>Professor Jean-Pierre Fouque</b> University of California Santa Barbara	Calibration of Stock Betas from Skews of Implied Volatilities
August 27, 2009	<b>Mr. Yuan Liao</b> Northwestern University	Bayesian Analysis in Moment Inequality Models
October 15, 2009	<b>Professor Timo Teräsvirta</b> University of Aarhus, Denmark	Modelling Volatility by Variance Decomposition
October 20, 2009	<b>Professor Jan Hannig</b> University of North Carolina at Chapel Hill	On Generalized Fiducial Inference
November 17, 2009	<b>Professor Alexander Aue</b> University of California, Davis	Estimating Fractional Cointegration at the Tick Level with Tapered DFTs



Prof. Jane Ling Wang



Prof. Jianqing Fan



## 訪問：黃寶誠教授

由雷曼兄弟破產引發的全球金融海嘯至今已過一年。在金融海嘯發生期間，黃寶誠教授因進行研究關係而需經常接觸本地銀行業。今期統訊為黃教授進行了個人專訪，分享他對銀行業轉變的觀察及近期一些有趣的研究工作。

黃：黃寶誠教授

### 金融海嘯後增加新規管

黃：本地銀行業在金融海嘯前後的重大轉變莫過於增加新規管。自金融海嘯爆發及本地雷曼迷你債券事件發生後，證監會及香港金融管理局(下稱金管局)制定了新的規管以監察銀行信貸情況。這些新規管為銀行業帶來至少兩方面的影響：昔日高風險複雜的零售衍生工具已不復再及銀行業銷售金融產品時程序非常繁瑣。

最近有報章報導，證監會及金管局為防止類似迷債事件再度發生，於是推出新的監管改善措施，其中包括證監會對金融產品的更完善的審批過程；還有金管局加強銀行的前線監管，令投資者在銀行認購投資產品的過程非常冗長，一方面保證投資者完全明白產品的風險程度，另一方面，也打擊盲目投資的意慾。

黃：新的嚴格規管從近期(2009年中)市民購買人民幣零售債券(人債)的經驗可見一斑。有意購買人債的市民需要讓銀行進行風險評估，而且未必有錢就可以順利購買人債。

事實上，中原集團主席施永青亦在am730撰文指身受其害。他表示，雷曼迷債出事後，監管機構把銀行業銷售金融產品時的程序收緊且弄得非常繁瑣。他認購東亞銀行人債時就吃過苦頭，整個程序花費兩個多小時，實在會嚇跑人。另一方面，由於信貸風險上升，銀行貸款變得更為審慎。

黃：就信貸市場來看，自金融海嘯後本地銀行對借貸批核也謹慎了，甚至突然緊縮借貸限額。這無疑對各行各業，尤其中小企及物流公司的營運造成困難。此外，英國有一項研究顯示，金融海嘯後當地銀行突然縮緊信貸額，而最受打擊的行業是餐飲業，當中很多餐廳因而無法繼續營運。

### 銀行業的新機遇

黃：由於規管增加，預料銀行業將會聘用更多合規管理人員(Compliance)，而當經濟復甦時，相信行內會透過風險管理及營銷所產生的協同效應來作為開拓銀行業務的重要策略。另一方面，一些涉及投資風險較高的業務，例如售賣複雜的零售衍生工具，將會進一步收窄。

### 廣泛涉獵 良好溝通及簡報技巧不可缺

黃：現時銀行業有多項工種都與數據有關，我預期統計及風險管理這兩門學科必定會在銀行業中擔任更重要的角色。我極力建議修讀統計學或風險管理科學的同學除了懂得搜集、整理、分析及傳釋數據之外，更要擴闊自己的學科領域，這樣才能將統計的知識應用於不同的知識範疇上(例如醫學或財務)，如此運用數據才更有意義。其實學習不同範疇的知識是很有樂趣及挑戰的。以我為例，基於研究項目所需，我會涉獵醫學及財務的知識，而我在吸收這些知識的過程中，往往可以將以前一些不太正確的觀念糾正過來。

此外，現今的畢業生必須擁有良好溝通及簡報技巧。現時統計系有三科學生導向的科目來增加學生撰寫報告及口頭報告的能力，而RMS亦有三科專題導讀來增強學生的溝通及簡報技巧。畢業生需擁有這些技巧才能向其他人傳遞自己的構思與意念，一方面能用簡單但深刻的理論或圖表說服客戶，但更重要的是讓公司裏的同事明白數據裏隱藏的秘密，從而提高在工作團隊裏互補的作用。

### Google Insight for Search

相信你曾經使用Google的搜尋器搜索資料，原來你所打入的關鍵字都被Google記錄下來了。2008年8月，Google推出了一項新產品：Google Insight for Search，這項服務讓人了解關鍵字的搜尋狀態。服務為廣告商提供資訊如網上搜尋行為、某地區於某段時間內最多人搜尋的關鍵字等。

黃寶誠教授近期在搜集Google Insight for Search的資料數據中發掘了很多有趣的現象，例如：龔如心離世前兩星期已有人積極於網上搜尋陳振聰的資料；三大名牌：Gucci、Prada及LV的熱潮走勢，它們的搜尋率與銷售量會否有直接關係等。黃教授表示，這些數據往往反映了當時一些社會現象，因此分析數據時必須翻查當時的新聞資訊才會更貼近事實真相。從2009年9月份起，黃教授每月均為都市日報撰寫一篇分析文章，運用統計理論去剖析Google Insight Search中所得的數據資料。在這資訊泛濫的年代，畢業生能擁有統計的認知更為重要，並且它將是畢業生不能或缺的知識技能。

黃教授擔任為FRM®認證(財金風險管理分析師)的External Examiner已有三年，主辦機構是 Global Association Of Risk Professionals，簡稱 GARP，全球風險專業管理協會。各同學或舊生如欲查詢有關FRM認證考試的要求，可直接向黃教授查詢(電郵：samwong@sta.cuhk.edu.hk)。



## Honors and Awards

### Fellow of American Statistical Association



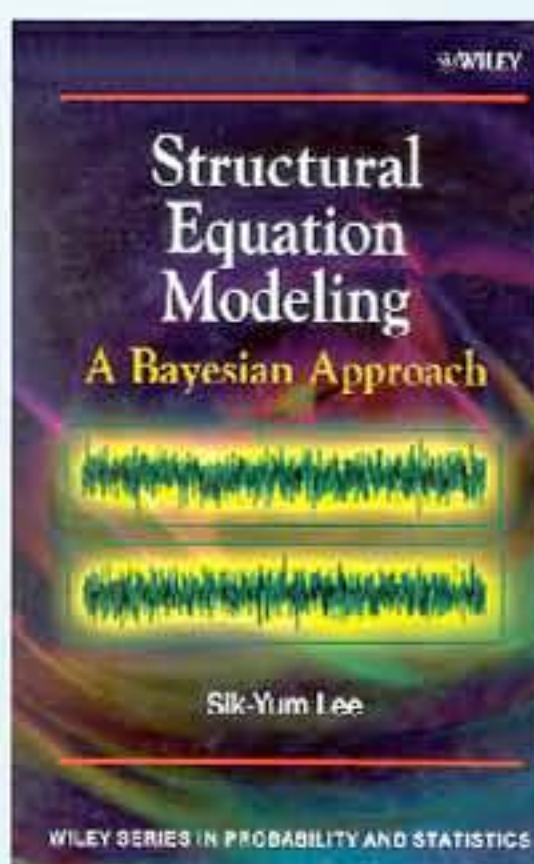
Prof. Thomas Lee Chun-man was elected Fellow of American Statistical Association (ASA) in 2009. Each year, ASA mem-

bers nominate their peers to become Fellows. Given annually, the honorary title of Fellow recognizes full members of established reputation who have made outstanding contributions to an aspect of statistical work. No more than one-third of 1% of the ASA membership may be elected each year. Professor Lee is the only one being elected to ASA from Hong Kong this year.



### Exemplary Teaching Award

Prof. Wu Ka-ho received the Exemplary Teaching Award of the Faculty of Science.



### Ziegel Prize 2008

Prof. Lee Sik-yum's book Structural Equation Modeling - A Bayesian Approach has been selected as the Ziegel Prize winner for 2008. This prize is awarded annually, beginning in 2007. The award was initiated by Technometrics in honour of Eric Ziegel, Book Reviewer Editor from 1986 to 2006, for his long and unselfish service to the profession.

### Honors and Awards - Hong Kong Statistical Society



Prof. Chan Ngai-hang was awarded the Honorary Membership of the Hong Kong Statistical Society. The Honorary Membership of the Society is awarded to renowned statisticians in recognition of their outstanding contributions to the statistics profession. Since the foundation of the Society in 1977, only 13 statistics professionals have been awarded this honour.

Prof. Chan Ping-Shing and Mr. Julian Wong Ying-wang received the Service Award of the Society

The Service Award is presented to members in recognition of their sustained and/or significant support to the running of the Society and its activities.



### 蔡陳群英女士獎學金得主

承蒙 蔡陳群英女士慷慨捐贈，設立「蔡陳群英女士獎學金」，自2006-07年度，每年捐出港幣五萬元，獎勵五名成績優異的學生。本系衷心感謝蔡女士無私捐贈，造就學子。2008-09年度獲得「蔡陳群英女士獎學金」的同學包括：孔令佳同學、李銘軒同學、陸泳斌同學、王未吟同學及許文君同學





“Honestly, when I was considering whether to choose the RMS program or not a few years ago, I did not have a concrete idea what the program was about. All I knew was that it was related to mathematics, finance, statistics and economics. I had always been interested in dealing with numbers and even more interested in how to apply the combination of numbers and logic in the real-life world. When I attended the information session of the RMS program, I was impressed by the quality of the faculty members and also the wide array of fields that the program will touch on. I truly believe that for an undergraduate student, it is best to expose yourself to as many new situations as possible and enhance your knowledge base. The RMS program has a well-structured curriculum that will give students plenty of opportunities to enrich their skill-set and become a professional possessing both quantitative and qualitative aptitude.

After graduating from CUHK with a bachelor degree, I have decided to further consolidate my knowledge in the field of finance and economics with a master's degree. In September 2009, I embarked on a new adventure of pursuing a M.Sc. in Financial Economics at Oxford University, UK. I believe at Oxford there will be an even wider range of intelligent minds to encounter and more creative discussions to engage in. My professor Samuel Po-shing Wong has always encouraged me to form a "world view"; the RMS program has given me a glimpse of this financial world through internships and research opportunities, and now I will build on that with my coming experience at Oxford. ”

**Alex Li Lok Shun, BSc. in RMS (2009)**  
Graduate Student, University of Oxford



“I am honored to share my precious and valuable experiences and gains in the newsletter.

I never doubt my decision of choosing Risk Management Science (RMS) as my major in CUHK. As one of the mainland students, we are treated equally and even more advantageously by professors and faculty staff although we are the minority group. I can still recall my first day of course registration. Thanks to Professor Wong Hoi-ying and Professor Gu Minggao, I found it nothing difficult to settle my first semester's schedule while I didn't know where to start if it's all by myself.

Unlike other programmes, the RMS programme requires us to acquire essential knowledge from different areas, including economics, finance, mathematics, statistics and computer science. It may be doubted by every second year RMS mainland student that why we are still building up foundation knowledge set which seems unrelated to 'risk management'. In my point of view, all these courses train us to think critically and logically, which will surely be beneficial our whole life. Risk management is a subject of science, as well as of art, which requires one's patience to learn.

I realized that the RMS programme and its faculty are highly recognized in top-ranking world-wide schools during the application for graduate school. Now I am doing a Master degree in the University of Chicago. It is amazing to me that courses I learnt in the RMS programme provide me a huge advantage in terms of quantitative method and scientific thinking although my current study is about public policy which sounds like a social science subject. I am always proud to be an RMS graduate. I'm sure that this programme has proven to be valuable no matter you choose to work or further study after graduation. ”

**Helen Li, BSc. in RMS (2009)**  
Graduate Student, University of Chicago



“It is my pleasure to share with you my thoughts about the RMS programme and job-hunting experience.

The extensive RMS programme has enhanced my quantitative competence as well as my knowledge in finance, statistics, mathematics and computer science. On the other hand, professors are highly aware of our well-being and are always ready to offer us help. The skills I have acquired from classes and the invaluable advice from professors were indeed of great help with my job-hunting.

Now a management trainee in the bank, I am receiving comprehensive training about the operation of the banking industry and will soon commence rotations to various divisions of the bank, from the front to the back office. I anticipate the upcoming challenges and I believe the experience I am about to gain in the bank will be of significant contribution to the development of my career as a banker.

In addition to solid analytical skills, soft qualities such as effective communication skills, strong teamwork spirit and an un-framed mind are also necessary to get your dream job. Therefore do grasp every chance to widen your exposure as well as engage yourself in different extra-curricular activities and internships!

I wish you all the best! ”

**Mandy Chui Yan Yu, BSc. in RMS (2009)**  
Management Trainee, China Construction Bank (Asia) Corporation Limited





“ One of the department's undergraduate students, Jacky Lo, worked in the Royal Bank of Scotland (RBS)'s FX Options Desk as a trading and structuring intern this summer. His responsibilities included pricing structured products, backtesting FX trading strategies and devising new structured product ideas. He was given a full-time graduate offer upon completion of the internship.

"I find the RMS programme very useful to my job in investment bank as it exposes me to a broad spectrum of subjects including but not limited to accountancy, finance, mathematics, statistics and programming. More importantly, the scientific approach of this programme well equips me with the essential quantitative and analytical skills to excel in the banking and financial services sector.

To secure your dream job, it is very important that you start planning and pave the way for next step as early as possible (preferably during the first year of your undergraduate study). Try to gain more work and exchange experience as they will eventually develop you into an all-rounded person. Remember, GPA is only one of the many factors in determining whether you will be hired by your dream employer; other factors such as language skills, business acumen and internship and overseas experience are all as important as your exam scores and therefore you should not overlook them. Also, make sure you discuss and seek advice from your professors and seniors whenever you need guidance - I've been doing this for the past three years and I'm sure they can offer you valuable suggestions and feedbacks.

Wish you all good luck in your endeavors." ”

**Jacky Lo**

**Intern in RBS Global Banking and Markets FX Options Department**



“ Risk management is becoming more important these days. How can we know more about risk management and even develop to be a professional in this field?

Studying risk management science would be a good starting point. Risk management science program provides us with a series of comprehensive trainings, which include risk management, statistics, finance, mathematics and computer programming. All these help us to build up a solid financial background. Besides, the study environment here gives us opportunities to improve presentation and communication skills. Through the 3-year RMS program, our hard skills as well as soft skills are progressed.

It was difficult for a fresh graduate to find a job because of the depressed economic condition in 2009. But thanks for the well-balanced trainings provided by RMS, I was able to obtain an offer from MSCI Barra, and continue to develop my career in financial industry. ”

**Kaly Fong, BSc. in RMS (2009)**  
**Equity Analyst, MSCI Barra Limited**



“ It is my great pleasure to have a chance to share about my life in the Statistics Department and job-hunting experiences. I would like to express my sincere thanks to the Statistics Department. Not only because I have learnt lots of data analysis techniques throughout the programme but also it has provided a very good platform to train my logical and critical thinking which are essential for me to have a fruitful life and successful career.

I believe that in an interview process (and also in a business world), language ability and presentation skills are extremely important. Facing your interviewers, and later your clients, your colleagues and your boss, you have to use appropriate language (probably English and PTH) to present your ideas. Also, make sure you know the company and its related industry very well before the interview. You can research on the web, read newspaper and also have a brief understanding of the company's annual report.

Having started the Management Trainee Program in Bank of Communications, I have plenty opportunities to learn how different departments communicate, the daily operation of the bank and the ways to be a charming, effective and efficient organizational champion. Challenges are ahead for me and strategies are modifying everyday to cope with the fast-changing financial market. Smile more, you will feel the stuff easier and do the job happier. Interviewers prefer smiley, positive and sunshine boys/girls rather than a fast speaking robot!

Enjoy the life in the Statistics Department with the nice and funny professors, tutors and Stat-mates. Be confident, well-prepared and set a clear goal for yourself. ”

**Charles Chow, BSc. in Statistics (2009)**  
**Management Trainee, Bank of Communications Hong Kong Branch**





“Attending the Chinese University of Hong Kong (CUHK) has always been my dream. The statistics programme in CUHK provides me a professional training in statistics. It covers a great deal of areas in statistics. From application to theoretic, the programme equips me with all the techniques and knowledge I need for success in graduate study.

Our department provides many opportunities for students to expose their interests. For instance, in summer 2007 I was given the valuable opportunity to go with Professor Lee to the United States as a research assistant at Colorado State University. The valuable exchange experience has provided me with a diversified cultural experience and valuable international exposures. I was also given the opportunity to attend a conference with professors from Harvard University. The interactions with those world renowned statisticians and interesting academic giants have made me even more enthusiastic

about being a statistician.

The undergraduate study and various experiences have greatly enhanced my interest in becoming a statistician. I am particularly intrigued with statistical research and college instruction. Therefore, upon receiving my doctorate it is my goal to obtain a position that will allow me to serve my interests in both research and education. Now, I am studying a PhD programme in University of California, Davis. What I learnt from our department is very useful in my PhD study.

Hope I will be successful in obtaining a professional position after completing a doctoral programme that emphasizes research involvement and fosters the development of quality teaching and communication skills. I would like to thank all the professors for teaching in department.

Best Wishes. ”

**Matt Yang, BSc. in STA (2009)  
University of California, Davis**



“My three-year undergraduate study flew and I have definitely matured and well-equipped after these years. My analytical and problem-solving skills have been enhanced through everyday lecture, projects, discussions with professors and fellow classmates.

The Statistics programme not only provided me with statistical theories, but also gave me a taste of how to apply those concepts in daily life. In 2008, I was given a summer internship position in the Census and Statistic Department. Having understood how statisticians work in this field, I was inspired to further consolidate my knowledge, and to improve my presentation and communication skills in order to maintain my competitiveness.

My knowledge in this field is still very superficial but I am pleased to have the opportunity to pursue my postgraduate study in CUHK, and I appreciate all the chances that the Department has offered me. ”

**Mandy Ho, BSc. in Statistics (2009)  
Graduate Student in CUHK**

## Alumni News

Dr. Ng Chi Tim received his B.Sc., MPhil. and Ph.D. degree from the Chinese University of Hong Kong. Dr. Ng is now serving as lecturer in the Department of Applied Mathematics, the Hong Kong Polytechnics University.

## Personalia

- Miss Iris Chan Wan Wai was promoted to EOII
- Prof. X.Y. Song was advanced to Associate Professor starting 1<sup>st</sup> September 2009