中大統訊

NEWSLETTER

Department of Statistics

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CUHK SCI

香港中文大學理學院
FACULTY OF SCIENCE
THE CHINESE UNIVERSITY OF HONG KONG

Message from the Chairman

Dear Alumni and Friends,

We are pleased to bring to you the 12th issue of the Department of Statistics Newsletter, which summarizes the achievements of the department from the beginning of the 2016/17 academic year onwards.

2016 was a vibrant year. The department was fortunate to invite many nationally and internationally renowned speakers to deliver lectures and talks. For instance, Professor David O. Siegmund who has been conferred numerous honors and accolades and published an array of authoritative books in the field of Statistics visited our department, giving a distinguished lecture on "Change-point Detection and Estimation" in May 2017; Prof. Peng Shige, the Academician of the Chinese Academy of Sciences delivered a lecture on "Data-based Nonlinear Distributions under Robust Expectations" in February 2017. To keep abreast of recent developments and the state of the art in a variety of research topics, the department will continue to organize seminars and distinguished lectures. For details of the lectures and seminars organized by the department, please see P.5.

I am delighted to inform you that Dr. Lin Yuanyuan has been selected for the Vice-Chancellor's Exemplary Teaching Award 2016. You may find more details about the award in P.2. Our hearty congratulations to Dr. Lin!

There were personnel changes last year. Please join me in welcoming our new faculty member Dr. Wong Tat Wing. Dr. Wong is an alumnus of the department. His research interests focus on Actuarial Science, Mathematical Finance, Risk Management and Statistics. I am excited to announce his addition to our professional teaching team. To know more about him, please turn to P.2.
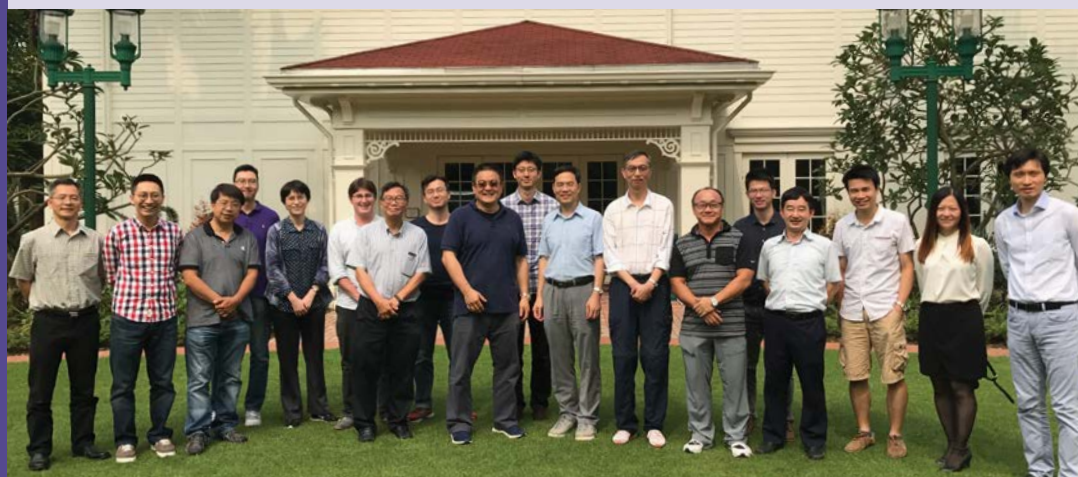
Meanwhile, we bid farewell to three faculty members: Professor Gu Ming-gao, Professor Leung Pui Lam and Professor Wu Ka Ho who retired from the University in August after years of exemplary services. We will forever be grateful for their contributions to the department and dedication to teaching. We wish Prof. Gu, Prof. Leung and Prof. Wu a happy and healthy retirement.
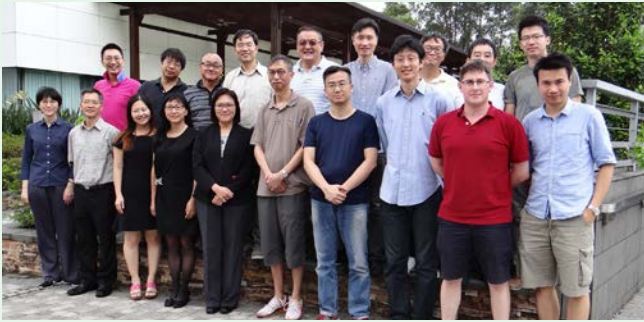
The University conducted a holistic review of our department programmes. I would like to take this opportunity to express my heartfelt gratitude to the faculty members and the supporting staff. In addition, I profoundly appreciate our students' and alumni's help in devoting their precious time to taking part in the programme review meetings. Your feedback is significant for our continuous improvement and your comments and opinions are highly valued.

For the latest achievements and first-hand information, please visit our department website.

May you have a year filled with smiles, love, luck and prosperity. Happy New Year!

Qiman Shao
Chairman

🏆 Vice-Chancellor's Exemplary Teaching Award 2016
⭐ Faculty Exemplary Teaching Award 2016

Prof. Lin Yuanyuan was awarded the Vice-Chancellor's Exemplary Teaching Award 2016 and the Faculty Exemplary Teaching Award 2016. The Vice-Chancellor's Exemplary Teaching Award is a prestigious award that is presented annually to outstanding teachers of the University, one from each of the eight Faculties and the General Education programme. The awardees' achievements in teaching are considered by their peers and students to be of the highest order. This award was presented at the 83rd Congregation on 16 November 2017. Congratulations to Prof. Lin!

🏆 2016 Nicola Bruti Liberati Prize
⭐ CUHK Young Scholars Thesis Award 2016

Our former postgraduate student, **Dr. Pun Chi Seng** was conferred the 2016 Bruti-Liberati Prize by the Bachelier Finance Society (BFS) and the Department of Mathematics of the Politecnico di Milano and CUHK Young Scholars Thesis Award 2016. His supervisor was Prof. Wong Hoi Ying.

BFS is the largest international society of Mathematical Finance. The 2016 Bruti-Liberati Prize is awarded to the best doctoral thesis in quantitative finance defended in 2015-2016. It is the first time that the award is given to a doctoral thesis from an Asian Institution.

Young Scholars Thesis Award is offered by the Graduate School and the award is to recognize the outstanding doctoral theses written by research doctoral graduates.

Congratulations to Dr. Pun!

● ◉ Retirement ◉ ●

Prof. Gu Ming-gao, Prof. Leung Pui Lam and **Prof. Wu Ka Ho** retired from the University in August 2017. Members of the department hosted a gathering to bid farewell to them. We would like to deliver a vote of thanks for their dedication and sterling contribution to the department throughout the years and wish them all the best in the days ahead!

★ ★ New Staff ★ ★

Dr. Wong Tat Wing has joined the department as Lecturer since 1 August 2017. He received a B.S. degree and an M.Phil. in Risk Management Science and a Ph.D. in Statistics from The Chinese University of Hong Kong. Before joining our department, he was working in BNU-HKBU United International College.

⭐ Overseas Research Award for PhD Students

The recipient of the Overseas Research Award 2016-17 was **Mr. Jiang Hangjin**. He undertook research at Stanford University, U.S.A.

Name	Destination	Period	Total Award Amount (in HKD)
JIANG Hangjin	Stanford University, U.S.A.	1 Oct 2017 to 30 Nov 2017	$26,000

⭐ Best Teaching Assistant Award 2016-17

Mr. Chu Chi Wing and **Mr. Shi Jiasheng** were awarded the Best Teaching Assistant Award 2016-17 in recognition of their outstanding teaching duties. The prize presentation ceremony was held on 5 September 2017. Congratulations to Chi Wing and Jiasheng!

Recipients of Advantage Trust Statistics Scholarship

Name	Major / Year in 2016-17	Amount (HK$)
HO Sui Lun	STAT / Yr 1	10,000
LI Junyao	STAT / Yr 1	10,000
SUEN Tsz Ki	STAT / Yr 1	10,000
UNDYONO Jeremy Jonathan	STAT / Yr 1	10,000
XU Weiwei	STAT / Yr 1	10,000
ZHANG Yudi	STAT / Yr 1	10,000
ZHONG Yaoxi	STAT / Yr 1	10,000
CHAN Yuk Sum	RMSC/ Yr 1	10,000
CHAN Uriel	RMSC/ Yr 1	10,000
LEE Chung Kiu	STAT / Yr 2	2,000
TONG Ka Kiu Cathy	STAT / Yr 2	2,000
HO Ka Hang	STAT / Yr 2	2,000
SUNG Yuk Lam	STAT / Yr 2	2,000
LEE Kiu Wing	STAT / Yr 2	2,000
LI Tsz Hei	STAT / Yr 2	2,000
LEUNG Ching Fung	RMSC / Yr 2	2,000
CHAN Yik Hung	RMSC / Yr 2	2,000
LEUNG Chung Shun	RMSC / Yr 2	2,000
FAN Tsz Ling	RMSC / Yr 2	2,000
HAN Shuyi	STAT / Yr 3	2,000
LIN Yuhang	STAT / Yr 3	2,000
KAM Ling Fung	STAT / Yr 3	2,000
PENG Zhichao	STAT / Yr 3	2,000
WANG Yiqun	STAT / Yr 3	2,000
LEE Chun Lung	STAT / Yr 3	2,000
JI Xiao	RMSC / Yr 3	2,000
TANG Ziqian	RMSC / Yr 3	2,000
CHEN Yue	RMSC / Yr 3	2,000
CHOI Tak On	RMSC / Yr 3	2,000
CHUNG Ka Pui	STAT / Yr 4	2,000
LAU Pak Sze	STAT / Yr 4	2,000
NG Lok Yeung	STAT / Yr 4	2,000
LIU Jianmin	STAT / Yr 4	2,000
CHAN Chi Ching	STAT / Yr 4	2,000
HAU Kwan Chun Winton	STAT / Yr 4	2,000
YIP Wing Hong	RMSC / Yr 4	2,000
CHENG Hei Ming	RMSC / Yr 4	2,000
LEUNG Siu Yu	RMSC / Yr 4	2,000
LUI King Shing Jason	RMSC / Yr 4	2,000

Recipients of Fan Fang Qi Yang Memorial Scholarship 2016/17

Name	Major / Year in 2016-17	Amount (HK$)
LEE Yat Hin	RMSC / Yr 2	5,000
CHEN Zeyu	RMSC / Yr 3	5,000
WU Kwong Man	STAT / Yr 4	5,000

Recipient of To Cho Fong Statistics Prize 2016/17

Name	Major / Year in 2016-17	Amount (HK$)
DONG Zhengyuan	STAT / Yr 3	2,700

Recipients of Undergraduate Student Overseas Exchange Sponsorship Scheme

Name	Major / Year in 2016-17	Host Institution
CHAN Lok Tung	RMSC / Yr 4	University of Essex
CHAN Sing Hang	RMSC / Yr 4	The Technical University of Denmark
CHENG Chi Kei	RMSC / Yr 3	National Taiwan University
CHENG Hei Ming	RMSC / Yr 4	Lund University
CHEUNG Chun Kam	STAT / Yr 4	LIUC - Universita Cattaneo
CHIU Chun Ming Alfred	RMSC / Yr 3	Aston University
GAN Seem	QFRM / Yr 2	University of Miami
HAU Kwan Chun Winton	STAT / Yr 4	The University of Western Australia
HO Tsun On	QFRM / Yr 3	Vienna University of Economics & Business
KONG Wai Kin	RMSC/ Yr 4	National Central University
LEE Hok Yin	STAT / Yr 3	Humboldt-Universität zu Berlin
LEUNG Ching Fung	RMSC/ Yr 2	Universiti Brunei Darussalam
LI Ka Wai	QFRM / Yr3	University of Southampton
LO Sze Yu	RMSC/Yr 4	National Central University
SO Wing Yin	RMSC/Yr 4	University of Toronto
TAM Man Nok	RMSC/Yr 2	Korea University
WONG Sui Fong	STAT / Yr 3	Tecnologico De Monterrey
YU Giselle	QFRM / Yr3	Copenhagen Business School

Conference Support to Postgraduate Students

Student Name	Conference Details
CHEN Kexin	• 21st International Congress on Insurance: Mathematics and Economics on 3-5 July 2017
FENG Menglu	• The Quantitative Methods in Finance 2016 Conference, Sydney on 13-16 December 2016
FENG Xiangnan	• The 9th International Conference of the ERCIM WG on Computational and Methodological Statistics, Seville on 9-11 December 2016
GAO Lan	• The International Symposium on Probability Theory and Related Fields, Shenzhen on 26-29 November 2016 • 2017 IMS-China International Conference on Statistics and Probability on 29 June – 2 July 2017 • 13th Workshop on Markov Process and Related Topics on 17-21 July 2017
HAN Bingyan	• 21st International Congress on Insurance: Mathematics and Economics on 3-5 July 2017
KANG Kai	• The 22nd International Conference on Computational Statistics, Oviedo on 23-26 August 2016 • International Conference on Statistical Distributions and Applications, Niagara Falls on 14-16 October 2016
LI Zhongyu	• The Quantitative Methods in Finance 2016 Conference, Sydney on 13-16 December 2016
LIU Wenxin	• The 10th ICSA International Conference, Shanghai on 19-22 December 2016 • 1st International Conference on Econometrics and Statistics on 15-17 June 2017

Student Name	Conference Details
OUYANG Ming	• The 22nd International Conference on Computational Statistics, Oviedo on 23-26 August 2016
SHI Jiasheng	• The International Symposium on Probability Theory and Related Fields, Shenzhen on 26-29 November 2016 • 2017 IMS-China International Conference on Statistics and Probability on 29 June – 2 July 2017 • 13th Workshop on Markov Process and Related Topics on 17-21 July 2017
SONG Fangda	• 2017 Joint Statistical Meetings on 29 July - 3 August 2017
WANG Chaojie	• 2017 Joint Statistical Meetings on 29 July - 3 August 2017
WANG Xiaoqing	• The 9th International Conference of the ERCIM WG on Computational and Methodological Statistics, Seville on 9-11 December 2016
XING Yue	• 21st International Congress on Insurance: Mathematics and Economics on 3-5 July 2017
YUEN Wing Yan	• 2017 Joint Statistical Meetings on 29 July - 3 August 2017
ZHANG Zhuosong	• 2017 IMS-China International Conference on Statistics and Probability on 29 June – 2 July 2017 • The International Symposium on Probability Theory and Related Fields, Shenzhen on 26-29 November 2016 • The 10th ICSA International Conference, Shanghai on 19-22 December 2016

Joint-University Symposium on Financial Risk Management: Topics on Time Consistency

The symposium was corporately organized by Dublin City University, The Chinese University of Hong Kong and The University of Hong Kong on 22 April 2017. Here are some snapshots of the event.

Session Chairs

Prof. Alain BENSOUSSAN
The University of Texas at Dallas, USA and City University of Hong Kong, Hong Kong

Prof. Wai Keung LI
The University of Hong Kong, Hong Kong

Prof. Hoi Ying WONG
The Chinese University of Hong Kong, Hong Kong

Prof. Hailiang YANG
The University of Hong Kong, Hong Kong

Invited Speakers

Prof. CHIU Mei Choi,
The Education University of Hong Kong
Time Consistent Mean-Variance Portfolio under Regime-Switching Cointegration

Dr. Robert ELLIOTT,
University of Calgary / University of South Australia
Dynamic Risk Measures and Nonlinear Expectations with Markov Chain Noise

Prof. HE Xuedong, The Chinese University of Hong Kong
Optimal Exit Time from Casino Gambling: Strategies of Pre-Committed and Naive Gamblers

Dr. Marcel NUTZ, Columbia University
A Mean-Field Competition

Prof. Mogens STEFFENSEN, University of Copenhagen
Time-Consistent Consumption and Investment

Dr. ZENG Yan, Sun Yat-Sen University
Optimal Dividend Strategy for a General Diffusion Process with Time-Inconsistent Preferences and Penalty Cost for Ruin

Prof. CUI Xiangyu,
Shanghai University of Finance and Economics
Resolving Time Inconsistency via a Competition Scheme

Dr. GUO Rui, Renmin University of China
Time-Inconsistent Risk Preferences and the Term Structure of Dividend Strips

Prof. LI Duan, The Chinese University of Hong Kong
Self-Coordination in Time Inconsistent Stochastic Control: A Planner-Doer Game Framework

Prof. Cornelis OOSTERLEE,
Delft University of Technology / Centrum Wiskunde & Informatica
The Monte Carlo-Based Stochastic Grid Bundling Method and Multi-period Mean-Variance Time-Consistent Portfolio Optimization

Dr. WONG Kwok Chuen, Dublin City University
A Paradox in Time Consistency in Mean-Variance Problem?

Distinguished Lectures and Seminars in 2017

The Department organized a number of seminars and distinguished lectures in 2017. We are pleased to highlight the distinguished lectures below. Please also visit our website for past events conducted by the department.
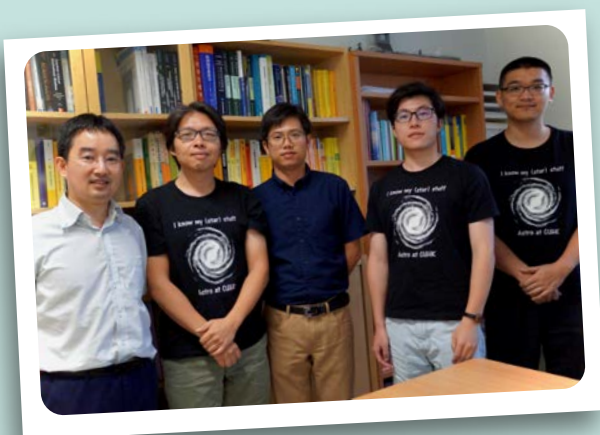
Speaker	Date	Title
Professor Ruey S. TSAY	5 December 2016	High-dimensional Linear Regression for Dependent Data with Applications to Nowcasting
Professor Tailen HSING	5 December 2016	Analyzing Spatial Data Locally
Professor Zhiming MA	8 December 2016	Problems and Challenge Arising from Bayesian Method in Phylogenetics
Professor Shige PENG	28 February 2017	Nonlinear Expectation: Theory, Methods and Applications
Professor Howell TONG	13 March 2017	The Power of Statistics
Professor David O. SIEGMUND	24 May 2017	Change-point Detection and Estimation
Professor Ian McKEAGUE	19 June 2017	Stein's Method and the Many Interacting Worlds Interpretation of Quantum Mechanics

Department Accomplishments & Activities

▼ Findings of a Link between Magnetic Fields and Birth Rate of Stars

Prof. Hua-bai Li of the Department of Physics and Prof. Xiaodan Fan of the Department of Statistics have a joint research on a mechanism that decides the birth rate of stars. The paper was published in Nature Astronomy on 19 June 2017. To know more about the groundbreaking findings, please visit: http://www.cpr.cuhk.edu.hk/en/press_detail.php?1=1&id=2538

▼ Interactive Activity for Teachers and Postgraduate Students

Autumn is the agreeable time for outdoor activities. To facilitate teacher-student relationships, teaching staff and postgraduate students went hiking from Tung Chung to Tai O on 12 November 2016, followed by a feast at night. It gave teachers and students a chance to relax and enjoy an autumn breeze as well as the pleasant sunshine.

(From left) Prof. Xiaodan FAN, Associate Professor, Department of Statistics, Prof. Hua-bai LI, Assistant Professor, Department of Physics, and three Ph.D. students in the research team Hangjin JIANG, Qilao GU and Yapeng ZHANG.

▼ M.Sc. in Risk Management Science Programme Annual Dinner 2017

M.Sc. in Risk Management Science Programme was held on 29 April 2017 in Royal Plaza Hotel. A total of 80 faculty members, guests, lecturers, staff, students and alumni attended the event. Faculty members presented certificates to 7 students with excellent academic performance in the Award Presentation Ceremony.

▲ M.Sc. in Data Science and Business Statistics Annual Dinner 2017

M.Sc. in Data Science and Business Statistics Annual Dinner was held on 6 May 2017 in the Salisbury, YMCA of Hong Kong. A total of 55 faculty members, guests, lecturers, staff, students and alumni took part in the annual dinner. 8 graduates were conferred the Academic Excellence Award. Certificates and prizes were presented to the awardees in the Award Presentation Ceremony.

◀ The 10th Lecture Series by CAS Academicians

The Department of Statistics was one of the co-organizers of The 10th Lecture Series by CAS Academicians and invited Prof. Peng Shige to hold a lecture on "Data-based Nonlinear Distributions under Robust Expectations" on 22 February 2017. Prof. Peng is the Academician of the Chinese Academy of Sciences and the Professor of Mathematics at Shandong University.

▶ The 6th Lecture Series by AS Academicians

The lecture on "Liquid Association for Investigating Complex Data" delivered by Prof. Li Ker-Chau was held on 19 April 2017. Prof. Li is the Distinguished Research Fellow of Institute of Statistical Science, Academia Sinica.

▶ CUHK Summer Research Placement Programme for Mainland & Taiwan Students 2017

To enhance further collaboration and strengthen close partnership with the Universities in Mainland China and Taiwan, Office of Academic Link hosted Summer Research Placement Programme for Mainland & Taiwan Student from 2 July 2017 to 19 August 2017 and Department of Statistics invited three students of Zhejiang University through this programme to receive seven-week research training. The opening ceremony took place on 3 July 2017.

JIANG, Hangjin (PhD in Statistics)

I visited Prof Wing Hung Wong in the Department of Statistics at Stanford University with the support of the Overseas Research Award for PhD students in Statistics offered by the department. Prof Wong, our department chairman from 1994 to 1997, is famous for his contributions to the theory of sieve maximum likelihood estimation, MCMC computation method in Bayesian inference and computational biology.

At the beginning of the visit, I discussed with Prof Wong how to find the number of stable states and the corresponding stable structures. Prof Wong proposed this project in 2014 and conjectured that the protein, similar to DNA, should have some important local structures determining its stable states. It took me about a year to develop a new algorithm to solve the problem, but I did not find the statistical description of the algorithm before coming to Stanford. After speaking with Prof Wong, I formulated a statistical estimating problem corresponding to the algorithm and finished the manuscript.

The third Friday after my arrival, I gave a talk titled 'Two-distribution Test and Variable Screening' at Prof Wong's group meeting. In this presentation, I introduced my recent work on testing the equality of two unspecified distributions based on two samples and its application to feature selection in classification problems. Prof Wang Yong from the Chinese Academy of Sciences showed a strong interest in my research and invited me to visit him sometime in the future. In addition, Prof Wong gave some suggestions for my future research and I learnt a lot during this talk.
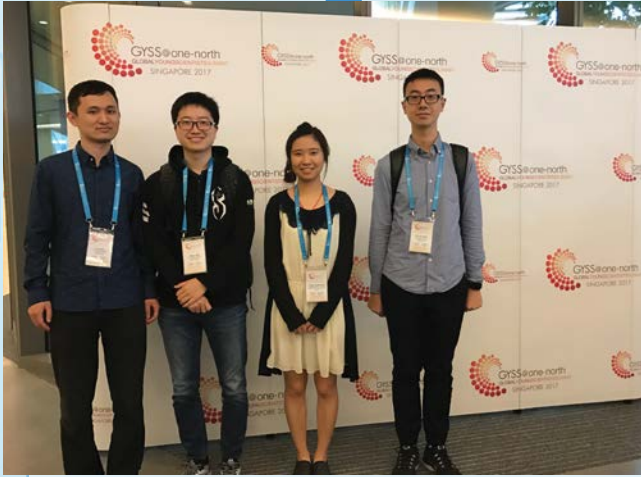

I enjoyed discussions with PhD students and postdocs in Prof Wong's group. We shared ideas on problems in different research areas. ZhiXiang (postdoc) was a very nice guy working on single-cell data clustering and I shared my recent progress on determining the number of clusters in the dataset with him. In exchange, he shared his experience on this issue with me, and we discussed the possibility of collaborating to analyse interesting biological data. Duren (postdoc) and I discussed at length the application of my new statistical method to biological problems.

Jalay (PhD), a smart and diligent girl from Tsinghua University in mainland China, also gave me some important suggestions for my work. Tung-yu (PhD in E.E.), who worked on deep learning, was very interesting and shared his experience on solving realistic application problems using neural networks and mini-batch MCMC with me. I learnt a lot by speaking with them. Everyone at Stanford was so nice to me and I am very thankful for their help in my daily life and my research.

I would like to express my deepest gratitude to my supervisor Prof Fan, my host supervisor Prof Wong and our department for offering me such a great opportunity. Furthermore, I thank my friends at Stanford and the department staff for helping me throughout my visit.

DONG, Fangyuan (PhD in Statistics)

I am honoured to have been nominated by the Department of Statistics to attend the Global Young Scientists Summit@one-north (GYSS) 2017 held at Singapore University of Technology and Design (SUTD). The GYSS is a gathering of young scientists and researchers (PhD students and postdocs) from all over the world, with eminent international science and technology leaders, such as Nobel Laureates, Fields Medallists and Turing Awardees. Every year, it chooses various themes and covers topics ranging from chemistry, physics, medicine, mathematics, computer science and engineering. This year, the theme of the GYSS was 'Advancing Science, Creating Technologies for a Better World'.

The programme

The GYSS offers a five-day programme, including plenary lectures, panel discussions, small group sessions, poster sessions and site visits. During the lectures and plenary sessions, speakers introduce their innovative ideas and interesting research in easy-to-understand language, which attracts the audience's attention. During the panel discussions and small group sessions, speakers discuss key areas of science and society with the audience and share their experience of chasing their dreams when they were young. I was especially impressed by female Turing Awardee Barbara Liskov, who shared her experience on how to keep a balance between research and family for a woman, when at that time it was really tough work. These sessions offer the opportunity to interact with distinguished scientists and learn a lot from them.

The city

The GYSS is held in Singapore every year, as it was established and is sponsored by the Singapore government. It was my first time visiting Singapore and I was impressed by the city. It is small but perfectly constructed. It is very convenient to live in Singapore due to its highly efficient transportation and governance system. There are four major communities in Singapore, each offering different perspectives on life in terms of culture, religion, food, language and history. The GYSS gave us the opportunity to visit local universities, research centres and local agencies, and to attend social activities to enjoy the sights and taste of multi-cultural Singapore. We went on a boat trip on the Singapore River, enjoying the scenery along the river and the history of Singapore told by the tour guide.

The people

At GYSS, I met many kinds of people from around the world. There were eminent scientists, hospitable organisers and friendly young scientists and researchers. During the small group sessions, we had a chance to talk with the speakers face to face and I took the chance to ask several questions to seek their opinions about scientific thinking and research. I also made friends with other participants during the discussions. Even though we came from different backgrounds, we tried to understand what and how others did research. Yi-Chi Wang was a researcher in climate and earth systems from Taiwan, and she was my roommate during the GYSS. Her concentration during the lectures and talkative personality during the discussions really impressed me.

I gained a lot during the five-day programme. I not only learnt about some of the most recent issues in the science world, but I also met many intelligent people from around the world. The speakers showed me that there is a long way to go, no matter what career I choose. Encouraged by other participants, I became braver and asked a question in front of the entire audience. All in all, it was an enjoyable and fruitful time, which encourages me to do better in my future research.

ADVANCING SCIENCE, CREATING TECHNOLOGIES FOR A BETTER WORLD

With the generous support of the Department of Statistics and the Faculty of Science, I attended the 2017 Global Young Scientists Summit (GYSS 2017), from 15 January to 21 January 2017. As a multi-disciplinary summit covering various topics of science and technology, the GYSS 2017 was sponsored by the Singapore government and hosted by Singapore University of Technology and Design to provide young scientists and researchers a chance to interact with globally recognised scientific leaders and recipients of the Nobel Prize, Fields Medal, Millennium Technology Prize, Turing Award and IEEE Medal of Honour. From this event, I learnt a lot from scientific giants and eminent peers.

Over the first three days, there were lectures and plenary sessions organised in the morning, delivered by eminent scientists and engineers, followed in the afternoon by informal small group sessions with speakers. Discussions with speakers were not limited to scientific problems; for example, we, young scientists, shared our thoughts and puzzles with eminent scientists and asked questions about our future careers. In the small group session with Prof

FENG, Xiangnan (PhD in Statistics)

Stephen Smale, the 1966 recipient of the Fields Medal, we asked him what was a good career path for a young scientist. He told us about the development of his scientific career. He started his career with the fundamental math problem of the Generalised Poincaré Conjecture and provided a proof in 1961. Then, he extended his interest to the field of computational biology, applied his background to it and contributed significantly to the field. I was inspired to find that fundamental research could lay the foundation for a researcher and give him tools to change the world.

Besides inspiring lectures and discussions with scientific leaders, GYSS 2017 provided a good chance for us young scientists to meet with peers from around the world. During the conference, I made many friends from diverse majors, such as computer science, chemistry, biology and mathematics. Through discussions with my friends, I learnt a lot about the concepts in their fields and this fresh knowledge widened my view of the world. GYSS also organised site visits for visitors to discover Singapore. I had the chance to visit the Department of Mathematics and the Department of Statistics and Applied Probability of the National University of Singapore (NUS). During the site visit, Prof Lai Tze Leung, a giant in the field of Statistics, was a visiting scholar at the Department of Statistics and Applied Probability of NUS. We had a great conversation.

I am honoured and lucky to have had the chance to attend this great conference. I would like to express my deepest gratitude to my supervisor, Prof Xinyuan Song, for supporting and encouraging me to take this valuable opportunity, to my friends at GYSS for helping me throughout the visit and to the staff in the department for helping me throughout the whole process.

Sharing from Exchange Students

CHENG, Hei Ming, BSc in Risk Management Science
Lund University (Sweden)

During the first half of 2017, I spent a very valuable semester at Lund University, Sweden. The mathematical statistics courses at Lund University suited my academic needs unexpectedly well. While being an exchange student, I left some specific investigations of my major, like investment strategy, for some time and returned to fundamentals, statistics and mathematics.

During my training at Lund University, I was introduced to non-parametric inference. I found that the investigation of statistical convergence was crucial when it came to different applications, like simulation techniques, confidence intervals of parameter estimates and statistical model fitting. Moreover, the study of empirical distribution contributed to survival analysis, actuarial science and non-parametric bootstrap. Only by understanding the mathematics behind them can we ensure that we use statistical tools in the correct way and in the right situation. By learning statistical inference, I will now be able to take several steps further when I return to my specific major.

Besides, I took some courses highly related to my major, Monte Carlo Simulation and Extreme Value Theory. The simulation course covered the materials not taught in the course RMSC4001, such as sequential importance sampling, Markov chain Monte Carlo and bootstrap techniques. Although it introduced random number generation and variance reduction techniques at the beginning, most of the content was still fresh for me. The extreme value course was mostly about modelling extreme values from three different approaches, block maxima, threshold model and point process, and the relations between their respective statistical distributions.

Finally, I took a Swedish introductory course for international students at the very beginning of the semester. I met friends from different countries there and we all agreed that Swedish was a vague language to learn.

This exchange programme experience in Berlin, Germany, was eye-opening and remarkable for me. Indeed, the destination of the exchange programme was not my ideal option at first. But given my own academic performance and interview results, Germany was the only choice I had, as I had learnt German for two years at school. But, it was in fact an opportunity for me to improve my German. Berlin, the capital city of Germany, was my destination.

Truly, Berlin is the most international city in Germany, a belief shared by many Germans. I was quite startled by the cultural differences between Berlin and other German cities, when I travelled to cities near Berlin on weekends. Now I understand why Germans claim that the city of Berlin is the least German city in Germany, which at first made me wonder whether I should have chosen another German city to learn German. Yet, living in other truly German cities would be boring, at least for us Hong Kong people used to living in a vibrant and energetic place. Berlin is renowned for its nightlife – indeed, you will never see any empty carriages on the train after midnight. You will never miss LKF in Hong Kong if you are a frequent clubber or fond of drinking with buddies. You will also get to know different people from around the world drinking in a bar. However, in such an international city, a cosmopolitan Berliner is equipped with fluent English. So, you will have little chance to practice your mediocre German with shop assistants, because they will answer in English once they hear you stumble over your broken German.

But it is never a bad idea to learn about the modern history of Berlin, specifically about the Second World War and the Cold War. Berlin has some world-class museums and memorials commemorating people killed in the war and educating people on the brutality of war. Standing at the centre of the wheel of European history helped me nurture a global view and comprehend differences between European countries or even between cities. After being previously split by two main forces, the capitalist and the communist, an incredibly distinct difference remains in today's unified city of Berlin.

This report is too brief for me to chronicle stories that happened either in Berlin or during my trips to other countries. Nevertheless, I am thrilled to have had such a wonderful experience studying and living in a foreign country.

LEE, Hok Yin, BSc in Statistics
Humboldt-Universitat zu Berlin (Germany)

LI, Ka Wai, BSc in Quantitative Finance and Risk Management Science
University of Southampton (United Kingdom)

During the last semester, I studied three mathematics courses at the University of Southampton, United Kingdom, namely, Numerical Methods, Introduction to Operational Research and Statistical Inference. They were all related to my major in The Chinese University of Hong Kong. These courses enabled me to take a closer look at the world of applied mathematics and it prompted my further interest in the field.

Looking back on the last few months, the experience enriched my university life in the sense that it brought me out into the world and widened my horizon. It not only helped me grow academically, but more importantly it helped me become a better and more mature person and a global citizen. As university students in an international city, it is essential for us to have a global mindset and a global view, not only for our future career but also for us to understand the world. For me, as a finance student, it is particularly valuable to see how different parts of the world are closely connected to one another.

To conclude, I am lucky to have joined the exchange programme organised by the Chinese University of Hong Kong to study at the University of Southampton in the United Kingdom for one semester. It was a life-changing experience and I became a more mature person due to the programme. Experience is tremendously different from observation. There are many things that we cannot truly understand unless we experience them ourselves. We are very lucky to live in an affluent city and have many opportunities every day. We should take as many opportunities as we can and learn as much as we can, especially when studying at university.
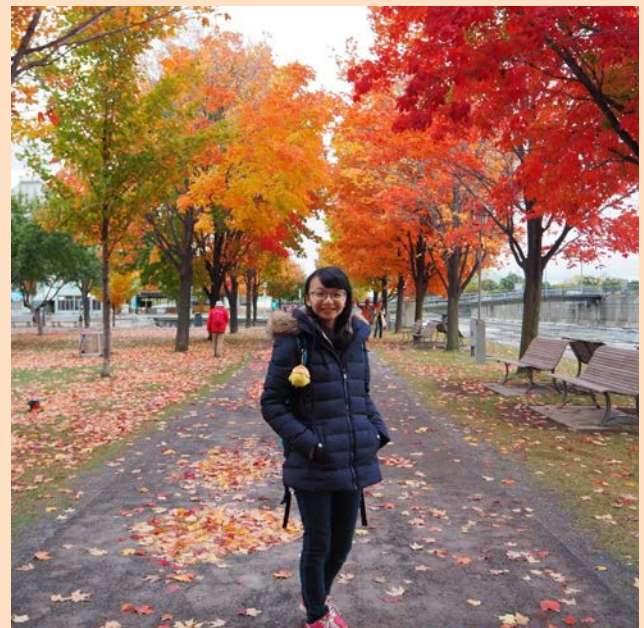
During my exchange study at the University of Toronto, I studied Surveying modelling, probability and different distribution in Statistics and linear algebra in Mathematics. I also participated in various activities organised by different societies at the university, during which I met lots of friends from all over the world who enriched my exchange life a lot.

Apart from my study, this exchange experience helped me become more independent and develop a clearer vision of my future and my life goals. During the exchange, I lived in a townhouse with three roommates. Each of us had our own lifestyle and we needed to learn to accommodate each other's habits to live together. This strengthened my feelings and care for others, which are very important in one's personal development.

As a Year 4 student, I was very frustrated with my future career path. The exchange period offered me a relaxing environment to experience, learn and meet new people. During this relaxing, self-motivated and self-managed exchange life, I understood more about myself and discovered what I wanted. Now, I have a clear goal that I will work hard to achieve.

I want to express my sincere gratitude for the support of the department and for the sponsorship of my exchange study. This exchange not only gave me a chance to explore more of the world, it also equipped me with a better personality and more strength when facing hardship. It enriched my life and enriched others' lives at the same time. During the exchange, I gave advice and helped others. One day in the future, I will give back what I received to other students, so they can also gain a valuable life experience.

SO, Wing Yin, BSc in Risk Management Science
University of Toronto (Canada)

WONG, Sui Fong, BSc in Statistics
Tecnologico De Monterrey, Mexico

I will never forget all of the valuable moments in Mexico, a completely new and different place from mine. Before going to Mexico to turn a new page of my study life, many people worried about me due to safety problems and the language barrier. I did not know any Spanish or the security level of my destination school. Yet, I chose Mexico as I really wanted to see the other side of the world. I would never be able to know more about the country or its people until I went there.

During my exchange life, I tried to learn Spanish and communicate with local people. I also met some local students who spoke English and we shared our cultures. My CUHK friends and I were invited to our Mexican friends' homes. We cooked Hong Kong-style dishes for them while they prepared Mexican-style food. They also taught us to play their traditional games and dance salsa (a popular Latin dance style). We had a joyful time together, which I had never expected.

Also, I celebrated the biggest festival in Mexico, Day of the Dead (Día de Muertos), in the capital of Mexico (Mexico City). For Mexicans, death is more a cause for celebration than mourning. Parades and performances were held in every city. People dressed like we do on Halloween. This was the first time I celebrated death.

Apart from that, I met friends from different places like Peru, Korea, Japan, Chile, France, etc. We had different mother tongues, skin colours and cultural backgrounds, but we could still party together and share our unique cultures. They inspired me a lot. I learnt so much from their lives and spirits. I feel so lucky and am thankful to have had a chance to be there and enjoy these precious moments.

Through the exchange programme arranged by OAL, I completed an exchange year at Copenhagen Business School, Denmark, from September 2016 to May 2017.

During the past year at Copenhagen Business School, I took both major-related and non-major-related courses, ranging from language to politics. The eight courses I took throughout the year were Danish integrated skills, financial modelling in Excel, decision making and risk management, international commercial law, corporate finance, business strategy, consumer behaviour and foreign policy of the European Union. Among these, the business strategy course inspired me the most. It was about analysing companies, identifying their strengths and weaknesses, evaluating their current operating strategies and giving advice. The course equipped me with the fundamental knowledge to become a consultant and it also opened my mind to my future career path.

There were lots of challenges and difficulties in living alone in a foreign country. The most challenging goal I set for myself before arriving was to integrate with the locals, because Danish people are known to be 'one of the most difficult people to be friends with'. To accomplish this, I registered in a Danish learning course and lived with a Danish family. By learning their language, I learnt more about their history and culture. I could also communicate with my local family with simple Danish and live more like a Dane. Although picking up a new language and adopting a new lifestyle in such a short period was not easy, the experience improved my adaptability to new environments.

Finally, I would like to express my sincere gratitude to the donor of the Undergraduate Student Overseas Exchange Sponsorship Scheme in this report. Your kind support encouraged me and the other recipients to explore the world and increase our international exposure through the exchange programme. It meant a lot to us. The photos captured the precious moments and experiences I had in Copenhagen in the past 10 months. Thank you very much for your support and your generous donation.

YU, Giselle, BSc in Quantitative Finance and Risk Management Science
Copenhagen Business School (Denmark)

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AU, Kun Wa, BSc in Statistics
The Centre for Clinical Research and Biostatistics

It was a pleasure to be given the opportunity to work at the CCRB as a summer intern. Professor Zee offered me great help and insights into how to work with statistics in real-life situations.

During my two-month internship, I was given the chance to write a paper after analysing a dataset. Throughout the analysis process, I put into practice what I learnt at school, especially the analytical skills, including non-parametric methods and regression, that I acquired in lectures. It was amazing to see how techniques learnt at school could be applied to real-life datasets to obtain sound results that confirmed my hypothesis. I also taught myself many analytical skills like categorical analysis methods, as I had not taken the corresponding course at the time. It made me realise how important self-learning is in the statistical world. There are many more ways to analyse data than the ones taught at school. People working at the CCRB were all experienced in statistics and research. It was eye-opening for me to discover how statistics research worked and to have the opportunity to ask questions on statistics.

Besides analysis, I was also able to contribute to office work and I learnt how to deal with clients. They offered me a chance to be responsible by contacting clients and dealing with enquiries. It was overwhelming and scary at first, as it was my first time doing so. But after some time, I became more confident and learnt the right way to deal with clients. It was a great chance for me to understand the business world.

The internship experience not only strengthened my statistical skills, but it also built my confidence to work in the business world in the future. It was a valuable experience for me and I truly cannot thank the department enough for giving me this opportunity.

DONG, Zheng Yuan, BSc in Statistics
Census and Statistics Department

For two months from 2 June to 31 July, I did an internship in the Census and Statistics Department, specifically at the technical secretariat branch. First, I would like to express my gratitude to the Department of Statistics for giving me such a valuable opportunity.

The main task I was assigned by my manager was to predict the trend of unemployment rate for classified industries and occupations according to related news. This project was only starting when I joined and there were four people in our team. The main field involved was text mining, which was a new field for me as I had never studied it at university or even heard of it. In fact, text mining of traditional Chinese is brand new in statistics with few people working on it. The tool used was R.

Although the project was not finished when I left, I learnt a lot of advanced text mining knowledge and improved my coding skills in R. I mainly completed three things. First, I integrated news and did preliminary text cleaning, like removing meaningless stop words for further processing. Second, I did some topic modelling and exported the output as interactive visualisation. Third, I explored the dictionary method to classify industries and occupations for each piece of news.

Overall, I learnt a lot and experienced the working environment of the Census and Statistics Department. Besides, my colleagues were all friendly and my manager was very nice. They offered me a relatively relaxed experience. I really appreciated this opportunity and hope that statistics students will have more opportunities to experience such internships in the Census and Statistics Department.

LEE, Man Yee, BSc in Statistics
Census and Statistics Department

I am grateful to have participated in the Professional Attachment Programme for Students of Tertiary Institutions 2017 organised by the Census and Statistics Department (C&SD). The internship was a valuable experience to broaden my horizon and enhance my statistical knowledge and practical skills in the workplace. There were two parts in the programme: working as a summer intern at the C&SD and assisting Professor Fan Xiaodan in his research on infrared applications in Biotechnology for two months.

During the two-month internship programme, I worked at the Balance of Payments Branch (2) of the Economic Statistics Division (3) at the C&SD. I was mainly responsible for conducting desk research on direct investment. I developed summary tables for Hong Kong companies with non-resident direct investors or subsidiaries.

In the early stages of the internship, it was quite difficult for me to understand the meaning of key terms in business reports, as I had never read any business reports before and did not have much business knowledge. When I worked on announcements, I spent a lot of time studying publications and analysing enterprise structures. Luckily, I progressively improved my productivity and sped up my efficiency under the instructions of Mr Ralph Ma, my supervisor. To facilitate the working process, I applied the programming knowledge I learnt in class and developed some R programming to batch-download useful information from the Internet and manipulate files. Also, I improved my speed-reading technique by reviewing numerous reports to investigate the enterprise structures and financing activities of resident and non-resident companies. Besides statistical knowledge and programming skills, I deepened my understanding of the C&SD, such as the roles and requirements of different positions at the C&SD.

My supervisor, Mr Ralph Ma, gave me boundless guidance and support to conduct research and facilitate the reporting process. He also shared his personal experience to advise me on my future career planning. Other colleagues were also always ready to help and talk with me. I am proud to have been part of the team and worked with them. I hope I can remain friends with my colleagues in the future and stay in touch with them.

This Summer Internship programme was meaningful and delightful. I really enjoyed working at the C&SD and would like to express my gratitude to my supervisors Professor Fan Xiaodan and Mr Ralph Ma and my supportive colleagues. During the internship, I learnt a lot from them, and the real-life working experience I gained will undoubtedly help me prepare for my future career.

LI, Wing Yiu, BSc in Statistics
Census and Statistics Department

I am grateful to have participated in the Professional Attachment Programme organised by the Census and Statistics Department (C&SD) in summer 2017. The two-month internship was an invaluable experience for me.

In this internship programme, I was assigned to the Trade in Services Statistics Section of the Sectional Economic Statistics Branch (2). The section is mainly responsible for Hong Kong's trade in services statistics, which covers services transactions between Hong Kong and the world.

My duties included reviewing and assisting with statistical analysis using VBA and SQL, conducting research on the forthcoming effects on Hong Kong's trade in services of Bond Connect, CEPA, Guangdong-Hong Kong-Macao Bay Area and giving a presentation to my fellow colleagues. Instead of conducting desktop research, which might not have benefited my future career, I am grateful to have had the opportunity to apply and deepen my classroom knowledge and gain extra skills in this real working environment.

I was required to give a presentation to my colleagues, including the Senior Statistician, my supervisor and other seniors, on recent and forthcoming economic policies. It was difficult for me at the beginning, as I was not familiar with the economic terms used daily. With the assistance of my supervisor, I was able to complete the task and was even introduced to new economic knowledge. My presentation might have helped my colleagues better understand policies and how they will affect Hong Kong's imports and exports of services statistics. It was meaningful for both my colleagues and me, and it boosted my sense of achievement.

This internship programme not only broadened my horizon regarding trade in services all over the world, but enabled me to learn both hard skills and soft skills. I am confident that the skills I learnt during this internship experience will help me in my future career. Finally, I would like to express my gratitude to my supervisor and my colleagues for offering me this invaluable and remarkable experience.

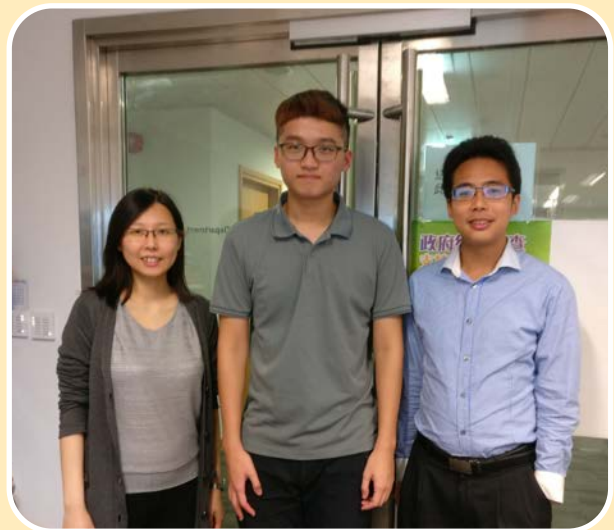## NG, Ming Hin, BSc in Statistics
Census and Statistics Department

Thanks to an offer from the Department of Statistics, I was able to go on this summer internship during which I learnt to refine my research skills and acclimatise to a new working environment.

I was assigned to the CPI section at the C&SD for two months. I was told to investigate two concepts that I had never encountered before. The research was quite challenging because I usually conduct research on familiar topics, but this time that was not the case. I managed to complete the research with the assistance of my two supervisors.
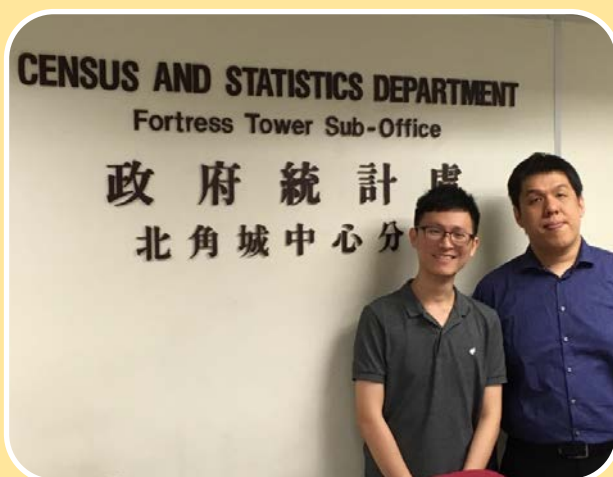
Moreover, I learnt to get along with my colleagues. When the internship began, I was unable to find something that I could discuss with my colleagues and I was afraid of bothering them, so I rarely spoke. My worries quickly subsided, as they asked me casual questions in the office and I was able to respond actively.

My third supervisor, Prof Tony Sit, also gave me some work this summer. I had to extract some examples from a textbook and present them in LaTeX format with code demonstrations in R. The translation helped me understand LaTeX and become more proficient in R by constantly obtaining outputs using R code. This was also a great experience, although different from the C&SD.

I am glad I was able to work at the C&SD and at the Department of Statistics this summer, because I am now able to comprehend new material and communicate with my colleagues more confidently. Although I had a fruitful experience during this summer, I still have many things to learn and hope to apply what I learnt this summer in my future life.

TO, Sum Yu, BSc in Statistics
Census and Statistics Department

I am so grateful to have been selected to join the Professional Attachment Programme of the Census and Statistics Department. The two-month internship programme was such a valuable experience for me.

From June to July, I was assigned to the Wages and Labour Costs Statistics Section (2), which conducts the Annual Earnings and Hours Survey (AEHS). As the AEHS is conducted in May and June every year, I had the opportunity to join the briefing session held for statistical officers by my supervisor. In the briefing session, I learnt about the purpose of the AEHS and the important points to note when filling in and validating questionnaires.

Although I learnt about survey methods in class, it was my first time using them in an actual situation. My supervisors and officers carefully considered how to deal with possible problems. For example, while I helped validate the system for data input, I learnt the purpose of the survey questions and the numerous rules for each question. My colleagues' professionalism was admirable. Learning about their work was a valuable experience that enabled me to learn how to solve problems when conducting surveys.

I also did some research on the results of the AEHS. Under the guidance of my supervisors, I researched and learnt how to draw conclusions from statistics to know more about the relationship between gender and earnings. As the AEHS is an important survey that helps determine the Statutory Minimum Wage and Contractual Working Hours in Hong Kong, I also researched and learnt about minimum wage and working hours in Hong Kong and other countries.

The two-month experience was a valuable opportunity to explore the work and structure of the C&SD. The skills to conduct surveys and use statistics will definitely help in my study and future career. I am glad to have learnt so much during this summer

CHAN, Ka Chun, BSc in Risk Management Science
FWD

FWD mainly offers life insurance products across its markets. It also offers general insurance products, employee benefits, pension and financial planning services. My main duty was to perform User Acceptance Testing (UAT). When old products require changes or there are new products to launch, UAT is needed. UAT is crucial in insurance companies, as it is the last phrase determining whether a product can be launched or changes can be made to old products. UAT is also a very important risk management method to prevent losses and mistakes.

It was my first time working for such a long period and I believe that these six months were a meaningful experience. During these six months at the company, I learnt many things that will be useful in my future career. Apart from hard skills, the soft skills I developed will also be very important in my career and my life. Before asking people for help, I needed to try my own method. Additionally, being a junior, I tried not to disturb my colleagues. When I try, I can learn things. However, if I still cannot finish a task, I know that I should not hesitate to ask for help. Moreover, I know that having a good relationship with my colleagues is very important. It helps me work better, learn more and succeed at work.

LEUNG, Siu Yu, BSc in Risk Management Science
Hang Seng Bank

I worked as an intern at the Retail Portfolio Management Department in Hang Seng Bank for the past year. During my internship, I completed various assignments and gained invaluable experience.

During the year, I wrote different kinds of monthly reports and performed ad-hoc tasks. As I worked in the Retail Portfolio Management Department, most of my work was related to retail products, such as credit cards, personal loans and mortgages. For example, I monitored the monthly card authorisation rate to detect if there were any sharp rises or drops in the approval rate. I also analysed weekly bankruptcy cases, trying to identify some characteristics of or patterns across these customers. Also, I investigated merchants for fraud aimed at swindling money from customers and banks.

From these assignments, I now understand much more about retail credit risks. For example, there were a large variety of retail products. Each product had different properties and required different measures to manage their risk. Moreover, my programming and computer skills improved a lot with my colleagues' instructions and repeated practice.

Apart from learning hard skills, I also gained many soft skills. First, teamwork was vital in the office and the division of labour was always necessary for greater efficiency. Furthermore, time management was important as there was always more than one task to accomplish and prioritisation was essential.

Overall, this internship was a rewarding experience to learn, and to connect study and work. So, do not miss the chance if you have the opportunity to work as an intern!

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