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

Department of Statistics
Newsletter

Issue 13

Message from the Chairlady

Dear Alumni and Friends,

I am honoured to serve as Chairlady starting from 1 August 2018 and grateful for the continuous support from the faculty and staff. I would like to take this opportunity to express my sincere gratitude to Prof Shao for his dedication to the department over the past few years. Now, please allow me to extend my heartfelt greetings to readers of the 13th issue of the department newsletter and share with you the latest achievements and developments of the department.

In 2018, our department established the Undergraduate Short-term Exchange Programme with the School of Mathematical Science, Zhejiang University. This programme provides a diversified learning experience and an opportunity for our students to participate in academic exchange with the professors and students from Zhejiang University. In addition, an exchange trip to East China Normal University, Shanghai took place from 16 to 20 May 2018. During this exchange trip, our students acquired a deeper understanding of the Chinese culture, experienced the local study culture and had a chance to build up connections with Mainland professors and students. For details, please turn to P.4.

For four years in a row, the department has held the Lecture Series by Chinese Academy of Sciences Academicians with the Office of Academic Links (China). This year it was our pleasure to invite Prof Xu Zongben to be our speaker. On 2 December 2017, we also held the CUHK Symposium on Statistics 2017, inviting distinguished speakers Prof He Xuming, Prof Howell Tong, Prof Ruey S. Tsay and Prof Ying Zhiliang to present recent developments and the state of the art in research topics on Statistics. For details on upcoming events, please visit our department website.

I am pleased to introduce to you our new faculty members, Dr Chan Kin Wai and Dr Lin Zhixiang. You will find more information about them on p.2. With their expertise and professional knowledge, the department research profile will be further enhanced and strengthened. Please join me in welcoming our new faculty members!

The sad news has reached us that Professor Lee Sik Yum, the former Chairman and Professor Emeritus of the Department of Statistics, passed away on 10 June 2018. On behalf of the department, I would like to express my deepest condolences to his family and pay the highest tribute to Professor Lee.

To facilitate the exchange of research ideas and keep abreast of the latest development in Statistics, the department will continuously organise seminars, short courses and distinguished lectures. In 2019, the annual NBER-NSF Time Series Conference will be hosted by our department. For details of the coming events, please visit our department website.

I wish you good health, happiness and success in the coming year. Happy New Year!

Song Xinyuan

Song Xinyuan
Chairlady

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Personalia & Awards

Obituary

Professor Lee Sik Yum, Emeritus Professor of the Department of Statistics, The Chinese University of Hong Kong (CUHK), passed away on 10 June 2018. He was Chairman of the Department of Statistics from 1986 to 1993 and served as Professor of Statistics in the remaining years of his career, before retiring in 2011.
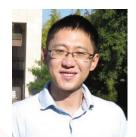
Professor Lee was a renowned Statistician. He obtained his Bachelor's Degree in Mathematics at CUHK in 1972, then a PhD in Biostatistics at University of California, Los Angeles in 1977. Professor Lee joined the University in 1977 and dedicated his career to the University for over 30 years. In 1993, he received the Distinguished Service Award from the International Chinese Statistical Association and was named Fellow of the American Statistical Association in 2004.

The Department of Statistics would like to offer our sincere condolences to his family, friends and colleagues.

New Staff

Dr Chan Kin Wai who is an outstanding alumnus of the department has joined the department as Assistant Professor since 1 August 2018. He obtained his BSc and MPhil in Risk Management Science from The Chinese University of Hong Kong and then received his PhD in Statistics at Harvard University. His research interests include covariance matrix estimation, multiple imputation, multi-phase inference, non-linear time series, non-parametric methods, robust statistical analysis and fiducial inference.

Dr Lin Zhixiang has joined the department as Assistant Professor since 1 August 2018. He graduated with a BS in Biological Science from Tsinghua University and then attended Yale University, where he received an MA in Statistics and a PhD in Computational Biology and Bioinformatics. His research interests include Bayesian statistics, statistical modelling and analysis of big data, genomics and computational biology.
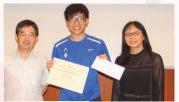
Honours and Awards

2018 International Quant Championship Outstanding Students Award 2018

Statistics graduate Ho Ngok Chao, together with a team of other Science and Engineering graduates, became the National Winner of the 'International Quant Championship 2018' held in Beijing in July 2018. Ho Ngok Chao has also been awarded the Outstanding Students Award 2018.

Congratulations to Ngok Chao!

Best Teaching Assistant Award 2017-18

Mr Cheung Mun Lau and Miss Chung Ka Pui were awarded the Best Teaching Assistant Award 2017-18 in recognition of their outstanding teaching. The prize presentation ceremony was held on 4 September 2018. Congratulations to Mun Lau and Ka Pui!

The IMA Journal of Management Mathematics Best Paper of 2018

Prof Wong Hoi Ying was awarded "The IMA Journal of Management Mathematics Best Paper of 2018" for the paper entitled "Optimal Investment for Insurers with Correlation Risk: Risk Aversion and Investment Horizon".

It is the annual prize for the best paper published in the IMA Journal of Management Mathematics. The award will be presented in the summer of 2019.

Congratulations to Prof Wong!

Faculty Exemplary Teaching Award 2017

Prof Wei Yingying was awarded the Faculty Exemplary Teaching Award 2017 in recognition of her teaching excellence.

Congratulations to Prof Wei!

Recipients of CUHK Statistics Alumni Scholarship 2017/18		
Name	Major / Year in 2017-18	Amount (HK$)
LAM, Chung Yin	QFRM / Yr 1	10,000
CHU, Kai Pan	RMSC / Yr 1	10,000
KONG, Chun Hay Leon	STAT / Yr 1	10,000
HUANG, Yuebin	QFRM / Yr 3	5,000
CHEUNG, Tin Wing	RMSC / Yr 4	5,000
MAO, Yusang	STAT/ Yr 4	5,000

Recipients of Fan Fang Qi Yang Memorial Scholarship 2017/18		
Name	Major / Year in 2017-18	Amount (HK$)
HO, Sin Ying Janice	STAT / Yr 2	5,000
JIAO, Xue	RMSC / Yr 3	5,000
KAM, Ling Fung	STAT / Yr 4	5,000

Recipients of Department of Statistics Scholarships 2017/18

Name	Major / Year in 2017-18	Amount (HK$)
CHEUNG, Man Ting	RMSC/ Yr 1	10,000
ZHENG, Lingfang	RMSC/ Yr 1	10,000
GUO, Erya	STAT / Yr 1	10,000
MO, Jackie Ryan	STAT / Yr 1	10,000
SHEN, Jiarui	STAT / Yr 1	10,000
SUN, Tianpeng	STAT / Yr 1	10,000
XING, Qianyu	STAT / Yr 1	10,000
YI, Suho	STAT / Yr 1	10,000
ZHANG, Can	STAT / Yr 1	10,000
ZHANG, Xindan	STAT / Yr 1	10,000
CHAN, Uriel	RMSC / Yr 2	2,000
FUNG, Lok Ki	RMSC / Yr 2	2,000
CHAN, Anni	STAT / Yr 2	2,000
KUOK, Chio Ieng	STAT / Yr 2	2,000
LI, Yuqing	STAT / Yr 2	2,000
SONG, Ziwei	STAT / Yr 2	2,000
UNDYONO, Jeremy Jonathan	STAT / Yr 2	2,000
XU, Weiwei	STAT / Yr 2	2,000
ZHANG, Yudi	STAT / Yr 2	2,000
ZHANG, Yufei	STAT / Yr 2	2,000
CHAN, Yik Hung	RMSC / Yr 3	2,000
DUAN, Yao	RMSC / Yr 3	2,000
FAN, Tze Ling	RMSC / Yr 3	2,000
LEUNG, Chung Shun	RMSC / Yr 3	2,000
LEE, Chung Kiu	STAT / Yr 3	2,000
LEE, Kiu Wing	STAT / Yr 3	2,000
LI, Jinzhao	STAT / Yr 3	2,000
SUNG, Yuk Lam	STAT / Yr 3	2,000
TONG, Ka Kiu Cathy	STAT / Yr 3	2,000
TSE, Kwan Nok	STAT / Yr 3	2,000
LEUNG, Chi Ming	RMSC / Yr 4	2,000
CAO, Kailun	STAT / Yr 4	2,000
CHEUNG, Wai Kei	STAT / Yr 4	2,000
HO, Ngok Chao	STAT / Yr 4	2,000
LIN, Yuhang	STAT / Yr 4	2,000
NG, Ming Hin	STAT / Yr 4	2,000
YIU, Tsan Kin	STAT / Yr 4	2,000
CHEUNG, Joseph Handel	RMSC / Yr 5	2,000
WONG, Dzi Hin	RMSC / Yr 5	2,000
ZHOU, Zehui	RMSC / Yr 5	2,000

Recipient of To Cho Fong Statistics Prize 2017/18

Name	Major / Year in 2017-18	Amount (HK$)
LI, Weihao	STAT/ Yr 3	2,700

Recipients of Undergraduate Student Overseas Exchange Sponsorship Scheme

Name	Major / Year in 2017-18	Host Institution
CAI, Zexi	QFRM/ Yr 2	University of Toronto
CHIU, Hui Fai	QFRM/ Yr 2	University of Warwick
WONG, Hop On	QFRM/ Yr 2	University of Toronto
POON, Hiu Kit	RMSC/ Yr 2	University of Monterrey
LI, Tze Hei	STAT/ Yr 2	McGill University
HUANG, Yuebin	QFRM/ Yr 3	University of Toronto
LO, Sui Ming	QFRM/ Yr 3	University College Dublin
CHENG, Wing Lam	RMSC/ Yr 3	Karlstad University
MAK, Chun Shing	STAT/ Yr 3	University of Washington
WONG, Chak In	STAT/ Yr 3	Technical University of Denmark
SHIU, Kin Chung	RMSC/ Yr 4	Graz University of Technology
HAN, Shuyi	STAT/ Yr 4	National Taiwan University
KWOK, Yuen Ching	STAT/ Yr 4	Nagoya University of Commerce and Business
LI, Wing Yiu	STAT/ Yr 4	University of South Carolina
TO, Sum Yu	STAT/ Yr 4	Uppsala University
WONG, Dzi Hin	RMSC/ Yr 5	University of Sussex

Overseas Research Award for PhD Students

The recipients of the Overseas Research Award 2017-18 are Mr Dai Shan, Miss Gao Lan, Mr Shi Jiasheng, Mr Song Fangda and Miss Wang Xiaoqing. They undertook research at Monash University, Australia, University of Southern California, US, University of Michigan, US, Yale University, US and Pennsylvania State University, US respectively.

Name	Destination	Period	Total Award Amount (in HKD)
DAI, Shan	Monash University, Australia	1 July 2018 to 1 October 2018	$32,000
GAO, Lan	University of Southern California, US	1 July 2018 to 31 August 2018	$26,000
SHI, Jiasheng	University of Michigan, US	15 March 2018 to 30 June 2018	$35,290
SONG, Fangda	Yale University, US	1 June 2018 to 31 August 2018	$32,000
WANG, Xiaoqing	Pennsylvania State University, US	10 September 2018 to 9 November 2018	$26,000

Conference Support to Postgraduate Students

Name	Conference Details
CHAN, Chu Kin	The Quantitative Methods in Finance 2017 Conference on 12-15 December 2017
CHUNG, Ka Pui	Joint International Society for Clinical Biostatistics and Australian Statistical Conference 2018 on 26-30 August 2018
DAI, Shan	The 10th International Conference of the ERCIM WG on Computational and Methodological Statistics on 16-18 December 2017
GAO, Lan	International Conference on Spatial Probability and Statistical Physics on 2-4 November 2017
	The 5th Institute of Mathematical Statistics - Asia Pacific Rim Meeting on 26-29 June 2018
LI, Chunxue	The Quantitative Methods in Finance 2017 Conference on 12-15 December 2017
LIU, Wenxin	The 10th International Conference of the ERCIM WG on Computational and Methodological Statistics on 16-18 December 2017
LUO, Li	International Workshop on Recent Progress in Data, Models and Decision on 17-18 July 2018
OUYANG, Ming	2018 Asia-Pacific Conference on Applied Mathematics and Statistics on 23-26 March 2018
WANG, Xiaoqing	The 10th International Conference of the ERCIM WG on Computational and Methodological Statistics on 16-18 December 2017
WONG, Chung Wang	The Quantitative Methods in Finance 2017 Conference on 12-15 December 2017
YANG, Qi	The 10th International Conference of the ERCIM WG on Computational and Methodological Statistics on 16-18 December 2017
ZENG, Jia	The Quantitative Methods in Finance 2017 Conference on 12-15 December 2017

Department Activities

Exchange Trip to East China Normal University, Shanghai

Prof Philip Yam and Prof Fang Xiao led a group of 14 undergraduate students and 2 postgraduate students on a visit to East China Normal University in Shanghai from 16 to 20 May 2018. The exchange trip aimed to provide students with different learning experiences to deepen their understanding of the culture, technology and economic development of Mainland China, experience the local study culture and build connections with Mainland professors and students.

A welcoming session took place on 17 May 2018, during which Prof Yam introduced our department to the teaching staff and students of East China Normal University. Afterwards, a campus tour and ice breaking activities offered a chance for our students to mingle with mainland students.

To help the mainland students become familiar with our department, our undergraduate students gave presentations on university life in Hong Kong and research projects in Statistics and Risk Management Science. With a view to facilitating academic exchange, Prof Yam delivered a talk on Risk-Dom, and our students audited classes taught by the teaching staff of East China Normal University.

On the fourth day, the group enjoyed a day's sightseeing in Shanghai, travelling around Lujiazui, the Shanghai World Expo Exhibition and Convention Center and the Bund, and savouring the local cuisine.

Thanks to the hospitality and thorough arrangements of East China Normal University, our teaching staff and students had a memorable time.

Students Sharing

Chan Yuk Sum
(RMSC/ Year 2)

First, I want to sincerely thank the department of statistics for giving me this valuable opportunity to visit East China Normal University in Shanghai and have such an amazing exchange experience. It was especially memorable because it was the first time I had been in Shanghai, and I shared my knowledge of university life with students at a mainland university. Not only did we share our university life with each other, but the Statistics Department organised some time for us to go sightseeing. I deeply appreciate the department's arrangements.

The students of East China Normal University are really nice. I will never forget the time when we did not know how to go to the Shanghai Bund. One of the students from ECNU helped us to find it and then to call a taxi. He even came with us to be our tourist guide! This really impressed me because he could have taken a rest at the hostel rather than hanging out with strangers.

I feel joyful that I could meet so many new friends studying in the same programme. In these few days, I heard many stories about their special life experiences, for instance, their participation in internships and exchanges. These were really helpful to me, and made me think about planning my future life at the university.

Chang Wenshu
(QFRM/Year 3)

It was a great honour to participate in the exchange trip to China East Normal University sponsored by the CUHK Statistics Department. During the enjoyable learning trip, I was fortunate to gain useful experience and broaden my horizons by communicating and sharing with the teachers and students of the host university. I would like to share my experiences and reflections on the following aspects.

The advanced research techniques and professional knowledge shared during the lectures and meetings impressed me a lot. We received a warm welcome from the host university and were invited to join a sharing session in which the professors spoke about the recent hot topics in statistics and its more practical application to economics, finance and gambling. These lectures inspired me to explore the applications of statistics and mathematics and become self-motivated to acquire more advanced knowledge and learn about the associated practices. During the sharing meetings, we delivered some presentations to introduce our CUHK campus life and Hong Kong's unique culture in addition to the situation and development of the Statistics Department. We wanted to encourage the others to become interested in learning about Hong Kong and CUHK, and we gladly invited them to visit our campus in the future.

Apart from the professional sharing, we gained the opportunity to visit some wonderful places in Shanghai, and sampled delicious local food and snacks. The trip to China East Normal University is engraved in my memory and has inspired me to study harder to better equip myself and connect to the world.

Yuen Chun Wing
(STAT/Year 3)

Many thanks to Prof Yam and the two postgraduate students, Natalie and Fangda. They helped us a lot on managing the trip's affairs.

This trip was much more inspiring than I thought it would be. Shanghai has become a modern city. For example, we saw fewer taxis on the road, due to the convenient mobile app 'WeChat' which can be used to directly order a taxi. Vigorous software development and data management has led to the evolution of mobile app functions. They have become more interactive and user-friendly. The quality of life in Shanghai has also been greatly improved. The people were friendly to us. They were always willing to give us a helping hand. One of the ECNU students, Chen Xin Yuan, took us around the city, and recommended good places to eat. I felt warm and lucky to have been befriended by this nice man.

The sharing session on day three was also impressive. Together with the ECNU students, we arranged to present our academic projects. The mainland students concentrated on maths but were unable to apply the knowledge to life. Nonetheless, their projects were diversified, covering a range of topics from school policy to the social welfare system. All of the groups spoke to the audience about their detailed and sophisticated work. I understand that they put a lot of effort into the project. Their preparation was so thorough, there were no errors or ambiguities.

In the sharing session, I found that not only were the ECNU students diligent, they also cared about the society they belong to. It can be said that they were model students. This ECNU exchange trip gave me a chance to learn how well the students at other universities do and has motivated me to work harder in the future. It is better to travel far than to read voluminously.

Zhejiang University – The Chinese University of Hong Kong Statistics Student Interflow Programme

The Department of Statistics of The Chinese University of Hong Kong co-organised a short-term exchange programme with Zhejiang University to enrich students' learning experience and facilitate academic exchange between Hong Kong and mainland students. Prof Wen Jiwei, Mr Xu Da, Ms Chen Li and 7 students from Zhejiang University visited our department from 16 to 20 April 2018.

On behalf of the department, Prof Shao delivered a welcome speech and introduced members of our department to Zhejiang University's teaching staff and students. They were invited to attend a seminar, audit courses in our department and attend a sharing session to exchange learning experiences with our undergraduate and postgraduate students.

Interactive Activity for Teachers and Postgraduate Students

To facilitate teacher-student relationships, the department regularly organises various interactive activities. Around 50 teaching staff and research postgraduate students went hiking at Pat Sin Leng on 11 November 2017, followed by a seafood dinner at Tai Po Market. This provided an opportunity for teachers and students to relax, relieve the pressure from school and enjoy the natural scenery.

Alumni Association Activities

The Alumni Association of the Department of Statistics periodically organises career development activities such as career talks and workshops. It launched a mentorship programme to provide opportunities for alumni to share their experience and advice with the students of our department. Please visit its Facebook page for details: https://www.facebook.com/custaaav

Department Activities

MSc Annual Dinner

MSc in Data Science and Business Statistics

The Annual Dinner for MSc students in the Data Science and Business Statistics Programme was held at the Salisbury YMCA in Hong Kong on 28 April 2018. 67 guests, including students, alumni, staff and guest speakers, attended the annual dinner. Academic Excellent Awards were presented to the 8 graduates with the best academic performance.

MSc in Risk Management Science

MSc Risk Management Science held its Annual Dinner at the Royal Plaza Hotel on 4 May 2018. The event was attended by 76 students, alumni, staff and guest speakers. Academic Excellent Awards were presented to the 10 graduates with the best academic performance.

The 11th Lecture Series by CAS Academicians

For four years in a row, the Department of Statistics has organised Lecture Series by CAS Academicians with the Office of Academic Links (China). This year, on 28 February 2018, Prof XU Zongben, an academician from the Chinese Academy of Sciences and a Professor at Xi'an Jiaotong University, was invited to deliver a talk on 'Model Driven Deep Learning'.

CUHK Symposium on Statistics 2017

On 2 December 2017 (Saturday), the CUHK Symposium on Statistics 2017 took place. It was jointly held by the Department of Statistics of The Chinese University of Hong Kong and the Hong Kong Statistical Society. 4 distinguished scholars were invited to speak to the symposium.

Prof HE Xuming
University of Michigan
Title: Post-selection Inference on Regression-based Treatment Effects

Prof Howell TONG
University of Electronic Science and Technology of China / London School of Economics
Title: Testing for Unit-root Non-stationarity against Threshold Stationarity

Prof Ruey S. TSAY
The University of Chicago
Title: Forecasting in a Data-Rich Environment

Prof YING Zhiliang
Columbia University
Title: Some Statistical Models and Methods for Process Data

Distinguished Lectures and Seminars in 2018

In 2018, the department organised several seminars and distinguished lectures. We are pleased to highlight the distinguished lectures below. Please also visit our website for the past events conducted by the department.

Date	Speaker	Topic
22 January 2018	Prof Tony CAI	Statistical and Computational Limits for Submatrix Localisation and Sparse Matrix Detection
27 March 2018	Prof LAI Tze Leung	Gradient Boosting: Overview, Theory and Applications to Big Data Analytics

Global Young Scientists Summit 2018

GAO, Lan
PhD in Statistics

Attending the Global Young Scientists Summit 2018 in Singapore was a precious experience. The summit consisted of four parts: plenary lectures, panel discussions, small group sessions and site visits.

About 20 distinguished scientists and researchers gave inspiring lectures on such subjects as chemistry, medicine, biology, physics, mathematics and computer science. I was particularly impressed with the speech of Sir Michael Atiyah, winner of the Fields Medal, before the closing ceremony. He said, 'Time itself is a mystery of the universe' and 'Time spent thinking is not wasted. Time is one of the most valuable things in life'. We were urged not to waste time and make the appropriate use of it.

Another winner of the Fields Medal, Efim Zelmanov, spoke about the art of mathematics. He asserted that all parts of maths are related and feed each other. For the sustainable development of our society, we cannot only focus on mathematical applications.

In the small group sessions, we had close interaction with a winner of the Turing Award, John Hopcroft. Prof Hopcroft suggested that we figure out what we really enjoy. He told us to stop worrying about how to find a good problem and just do it with our full passion. Meanwhile, he advised us that doing more than one task at a time will prevent us from hanging back on some very difficult problems. As a computer scientist, Prof Hopcroft also talked about the applications and theoretical difficulties with deep learning in the era of data deluge. Those topics stimulated our interest in the connections between deep learning and statistics and trying to make our knowledge more relevant.

I also participated in a site visit to the Singapore University of Technology and Design. We visited their 3D printing lab and the director showed us the beautiful products they had made. They learn by using.

I am very happy and feel lucky to have made many new friends from other fields. We have continued to communicate with each other about our research and our lives.

I really appreciate the opportunity to attend GYSS2018. The stories of the excellent scientists inspired me, and we should work hard to make our own story.

OUYANG, Ming
PhD in Statistics

Honoured and lucky, GAO LAN and I were nominated by our department and faculty to attend the Global Young Scientist Summit 2018 (GYSS) in Singapore. This summit was started in 2013, and this time it was hosted by Nanyang Technology University, one of the best universities in Asia. By inviting many famous speakers in multi-disciplinary fields, including chemistry, physics, medicine, mathematics, computer science and engineering, the conference provided a bridge from our young researchers to the experienced scientists. In addition, it provided an opportunity for our young students to engage in conversations with students from different fields. During the meeting, I learned a lot from the great scientists who had been winners of the Nobel Prize, Fields Medal, Millennium Technology Prize and Turing Award. I listened to their lectures, panel discussions and small group discussions, and I expanded my horizons by communicating with others, visiting Singapore's local research and innovation facilities and viewing the Singapore landscape.

The meeting lasted six days, and there were about five to six lectures each day. The content of the lectures consisted of the hottest and most important topics in the world. For example, Prof John Hopcroft, the Turing Award recipient, talked about deep learning technology, which has been one of the most innovative technologies taking place in recent years. He suggested we use the higher dimensional spaces of the neural network with unsupervised learning to solve the problem with image and text classification. He explained that deep learning is not perfect and will never become Artificial Intelligence. The talk enlightened me and I see a bright future for me in deep learning. In another talk, the recipient of the Nobel Prize in Physics, Prof Dr Klaus von Klitzing, spoke about the revolution in metrology, which is the science of measurement. He had been instrumental in changing the standard on which the seven base units in the world (meter, kilogram, second, ampere, kelvin, mole, candela) are based. Prof Dr Klaus spoke about the history of the seven base units and how all units within the International System of Units (SI) would be based on universal physical constants (phenomena) rather than objects after 2019. Before 2005, the definition of one kilogram was the mass of the nation international prototype, and each country used a copy to measure its own weigh. However, several years later it was learned that because each country's situation was different, their prototypes contained inequalities. This meant that the definition of the base units was unequal. A more stable way to define the base units was found, and the decision was made to use quantum units to measure them. The new standard definitions are expected to be released in late 2018 or 2019. This talk showed me how precise science is. The Millennium Technology Prize recipient, Prof Frances Arnold, also spoke about how to sequence the DNA of an evolvable enzyme to turn it into a more effective catalyst for many important applications, other than precious metals for which it is used nowadays. This talk also impressed me because it demonstrated the power of combining two majors. There were many other talks on quantum mechanics, black holes, neutrino theorem and so on. In addition to attending the lectures, we had panel discussions and small group discussions on society and science, the inspiration for research and the right attitude when facing difficulties.

The event's organisers also took us on site visits to research centres and other universities. The institute I went to was the clinical branch of the Agency for Science, Technology and Research, the research centre sponsored by the Singapore government. The clinical laboratory was near the National University of Singapore, and we were invited to learn about its achievements with nutrition and food. The professor showed us how eating chicken and rice with vegetables can decrease blood glucose faster than only eating rice or rice and vegetables with a meal. This was a very interesting conclusion, he said, because it conflicted with vegetarianism. After this stimulating talk, the professor took us to visit the labs at the institute. There were many labs, with each one dedicated to a different use. For example, there was a lab for baking cookies with and without a particular enzyme, to confirm the advantage of the enzyme. Another lab was working on testing the blood glucose of patients. A small machine was pasted onto the patient's skin, and 72 hours of dynamic blood glucose could be traced. This impressed me a lot because the data we ran on paper could only monitor blood glucose when the patient was tested. The new technology could support the monitoring of glucose over a long period. The laboratory also had an air-tight chamber in which the total calories for a person could be calculated. The room would light up with different colours, and the impact of the colour could be evaluated when people were eating. These labs inspired me because they showed how data could be used and where the data we use every day comes from. When I was there, I engaged in dialogue on the local research to understand the work the labs do. I learned many things on this tour. On the lighter side, we were taken to Chinatown and the Urban Redevelopment Authority Gallery, where we not only discovered the culture and development of Singapore society, but also realised the constraints of Singapore and how it has overcome them by adapting to science and innovation.

At the conference, I met many other students from different majors, including medicine, physics, and chemistry. They were from different schools in Hong Kong, mainland China and Singapore. We gathered together to explore the Nanyang Technology University, talk about our own campus life and share our research experience. Since the conference, we have remained good friend and have kept in touch with each other.

Overall, I learned many things from the lectures and visits during the six-day meeting. I improved my communication skills, became inspired and developed the courage to do research and broaden my research views. I would like to thank our department and the faculty for providing me with such a wonderful and valuable opportunity.

DAI, Shan
PhD in Statistics
Monash University, Australia

Supported by the Overseas Research Award for PhD students in Statistics offered by our department, from July to September 2018, I visited Professor Jiti Gao in the Department of Econometrics and Business Statistics at Monash University. The campus is located in Melbourne, Australia, one of the world's most liveable cities.

Before my visit, I was working on a special semiparametric cointegrating model for trending time series, which generalises some of the existing models and can be used in many scenarios for financial data. However, as pointed out in the literature, the usual asymptotic kernel estimation methods break down in this setting with nonstationary regressors. To help solve the problem, I considered the rotation technique proposed in a paper written by Prof Gao. However, there was still a problem with developing the related asymptotic theory for our more general case. Thus, this visit provided me with a good opportunity to study under Prof Gao. At the beginning of my visit, I discussed this problem with Prof Gao, and finally we found that the problem induced by the kernel method might be unavoidable in developing asymptotic theory with our more general case, even with the rotation technique. After that, the professor suggested the sieve method, which opened up a new way to consider the problem. This deepened my understanding of the local nature of the kernel method as a local estimation method. I then started to find that the sieve method was more 'user-friendly' in many cases. One of the important examples of this is that the smoothing parameter choice based on generalised cross validation or a nonparametric AIC is more tractable and less sensitive than what was used in the kernel case. During my visit, Prof Gao also recommended some papers on the specification testing problem for nonparametric and semiparametric cointegration. This provided me with many insights into the cointegration issue and helped me see the underlying linkage between specification testing and model estimation for a nonstationary time series. In turn, this inspired me to make some effective improvements to my previous thoughts and work in addition to some ongoing research problems.

Apart from my studies with Prof Gao, I attended the weekly Wednesday study group organised by his department, in which one faculty member was invited to present his/her most recent research. The research topics were very rich, and included such hot topics as quantile regression and panel data. It was rewarding to listen to their talks and I was happy to join the discussions between the teachers and students.

I was also impressed by the people and scenery in Melbourne. Sharing ideas with PhD students and postdocs in Prof Gao's group was very enjoyable, especially because some of them had statistics backgrounds and others had econometrics backgrounds. This really broadened my horizons. We also cooked together sometimes, which not only exposed me to their enthusiasm but also to their wonderful cooking skills. Some weekends I visited Melbourne's many interesting places, such as the very famous 'Gateway' Building of Monash, the State Library of Victoria with its very profound cultural background, the beautiful Royal Botanic Gardens Victoria and the so-called coffee street, Degraves Street. It has all earned Melbourne a well-deserved reputation for being one of the world's most liveable cities.

The visit ended too quickly. I would like to express my deep gratitude to my supervisor, Prof Chan, my host supervisor, Prof Gao, and to our department, for providing me with such a good opportunity and this wonderful journey. The time spent studying with the department members and sharing with friends in Melbourne have all been memorable.

GAO, Lan
PhD in Statistics
University of Southern California, United States

I feel lucky to have been awarded the 2017/2018 Overseas Research Award for a PhD in Statistics and to have had the valuable opportunity to spend two months last summer visiting Professor Lv, Jinchi and Professor Fan, Yingying at the Department of Data Science and Operations, University of Southern California (USC). It was an extraordinary and fruitful experience participating in the Overseas Research Programme. I loved the environment and climate of Los Angeles and the active research atmosphere at USC.

The exchange experience was important to me and benefitted me both personally and in my research ability. I treasured this great chance to study at such a leading research university and I have tried to promote myself through this visit.

At USC, I met with Professor Lv once a week, which helped me a great deal. He introduced me to an interesting project and guided me to find a meaningful problem to work on. In addition, I learned from communicating with postgraduate students and postdocs in the office. We had inspiring talks that motivated me to work hard. I also made several friends in the visiting department who supported me in my daily life.

Please allow me to express my deepest gratitude to our department, my supervisor Prof Shao, Qiman and my host advisors Profs Lv and Fan at USC. I truly appreciate this opportunity and hope more students can benefit from this programme.

SHI, Jiasheng
PhD in Statistics
University of Michigan, United States

I visited Prof Xuming He in the Department of Statistics, University of Michigan (UM) with support from the Overseas Research Award for PhD students in Statistics offered by the department. Prof He's research interests cover a wide variety of topics, including quantile regression, high dimensional inference and both parametric and nonparametric analysis for complex data.

The visiting programme is truly fruitful once you get into the pace. For me that began the first time I attended Prof He's group meeting. They discussed a review paper by Rosenbaum on observational studies and some new Quasi-experimental devices, which was quite different from the research area I would normally would have focused on. It was an instructive discussion and an impressive demonstration, and it pushed me to learn more about inference for complex data and observational studies. It was also very interesting to watch the others discuss the observational studies all the way to some principles combining hypothesis testing for real data study.

The second week after my arrival I gave a talk entitled, 'A Cramer Moderate Deviation Theorem for General Self-normalised Sums' at Prof He's group meeting. I introduced the work and its applications by tackling down the Cramer type moderate deviation for certain statistics from a sequence of weak dependent random variables. Despite the wide differences in our research interests, Prof He patiently offered a comprehensive comment and some suggestions for my work, especially on complex data and related topics which might link our work together. To me, this was a quite productive meeting that opened up a new door for my future research.

Regular discussions with the PhD students in Prof He's group were always interesting and delightful throughout this visiting period. We shared ideas and different understandings on problems in several research areas. Xinzhou (PhD) taught me a little bit about observation studies, clustering and other subgroupings of topics and related issues in corresponding simultaneous hypothesis testing problems. Yuen (PhD) discussed the perturbation method with me, which could help me with my ongoing project on the bootstrap version studentised trimmed mean estimation. Alex (PhD), whose focus was on quantile

regression and related topics, also helped by explaining his understanding detail by detail. Yinqiu (PhD), a perky and quite nice girl really impressed me with her work on variance estimation in a high dimensional setting. I learned a lot from these regular discussions and I am glad that I also helped them in a certain way. For example, I provided Jingshen (PhD) with some of my opinions on how to deal with the heavy tailed distributions within the domain of attraction of max stable laws and some extreme value theories.

Another quite special experience worth mentioning was the reading group organised by the PhD students from both the statistics and mathematics departments. This kind of cross-departmental communication is rare and was sort of new to me. However, I am so glad I attended the reading group. I gained a lot from it even though the heavy workload squeezed the daytime and brought a lot of pressure. In this group, we covered the book by Boucheron et al., Concentration Inequalities, and Pollard's book Convergence of Stochastic Processes. I gave a general review of the second book and it was absolutely memorable to hear the others' understandings and interpretations of the content.

I would like to express my deepest gratitude to my supervisor, Prof Shao, my host supervisor, Prof He, and our department for offering me such a great opportunity, and I thank all my friends at UM for the help and discussions we had during my visit.

SONG, Fangda
PhD in Statistics
Yale University, United States

I am a third-year PhD student in the Department of Statistics at CUHK, under the supervision of Prof Wei, Yingying. In the summer of 2018, I had the precious opportunity to conduct research in the School of Public Health at Yale University. My supervisor at Yale was Prof Ma Shuangge, who is one of the most prestigious biostatisticians in the world, famous for developing novel statistical and bioinformatics methodologies for analysing cancer genomics. The more research I did with Prof Ma, the more I learned about forefront methods and the more I gained valuable experience.

Prof Ma introduced me to the problem of integrating cancer image information into the prognosis of patients' survival outcomes. He had previously developed a model to integrate multiple types of omics data to predict the survival outcome of cancer patients. Omics data includes measurements of DNA methylation, copy number alternation and gene expression. With the development of sequencing techniques, all these measurements can be obtained from a patient simultaneously. In addition to omics data, Prof Ma and I wanted to incorporate image features from the pathological cancer slides to predict survival outcomes. Furthermore, we hoped to explore which one of the pathological slides, genomics and transcriptomics played the most important role in predicting patients' survival outcomes and how the latent regulatory network among these three layers worked.

When I was struggling to extract image information, Prof Ma constructed an online discussion group with his collaborator Prof Xiao at the University of Texas Southwestern Medical Center. Prof Xiao's team was working on machine learning algorithms to automatically extract features from pathological images. It was my great pleasure to join the discussion group and study the image processing procedure in detail. During my stay at Yale, I mastered the entire imaging processing procedure.

In addition to learning image feature extraction, I gained a better understanding of the regulatory network among omics data. Gene expression is regulated by copy number variation and DNA methylation and other regulators, although it plays a more direct role in cancer survival outcomes than its regulators. Meanwhile, from Prof Ma's other students, I learned how to download public omics data from a few well-known platforms. I was very grateful for all this support when I initiated the project on integrative survival analysis with image features and omics data. Since I have returned to Hong Kong, I have continued to work on this project.

At Yale, I tried my best to immerse myself in university life and the American culture. I attended several seminars held by the School of Public Health and appreciated the speakers' interesting work. I played basketball in the Yale gym with local players. I also joined a summer social activity and discussed different university life experiences with students from America, Asia and Europe.

Because of this exchange, I met the world's top professors and scholars, which has motivated me to study harder. I want to express my sincere thanks to Prof Ma for his extremely kind guidance, to Prof Wei for her support, and especially to our department for the overseas research award.
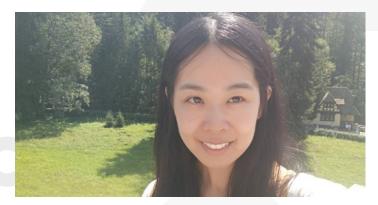
WANG, Xiaoqing
PhD in Statistics
Pennsylvania State University, United States

With support from the Overseas Research Award for PhD students in Statistics offered by the department, I participated in an exchange programme in the US.

From 10 September to 9 November 2018, I spent a valuable and memorable autumn at Pennsylvania State University. Penn State is located in a small college town in Pennsylvania called State College. I fell in love with State College as soon as I arrived there. Unlike Hong Kong, State College was always quiet and peaceful. When I sat in front of the window at the Pattee and Paterno Library, time seemed to stand still. It let my mind engage with the landscape, which immediately became as clear as the autumn sky. The natural environment made Penn State University the perfect place for academic research. The rising sun, the jungle and the sunset glow all made my mind calm and sober.

Life in State College was quite regular, quiet, full and rich. I enjoyed taking the early bus to the campus, drinking a cup of coffee in front of the library in the afternoon, sweating in the gym while watching the sunset, and especially studying beside a desk lamp at a huge rosewood table at home in the evening. The peacefulness provided me with a good chance to think deeply about the research questions and their meanings.

Aside from research and studying, the extracurricular activities in State College were also interesting, even though they were in a small town. Students could go hiking in the old mountains or valleys, go pumpkin-picking at the farms or enjoy Sichuan dishes in the downtown restaurants. I watched a football match between Penn State and Ohio at a popular bar.

The department I visited was called Human Development and Family Study. After my tenure there, I had a clearer understanding of how statistics can improve our daily lives. My project involved using stochastic differential equation (SDE) models to analyse the positive affect (PA) and negative affect (NA) in people's daily lives that contribute to understanding the changes in human emotions.

To sum up, this two-month exchange in State College was a memorable experience. It improved my research ability and broadened my horizons.

Exchange Sharing

HUANG, Yuebin

BSc in Quantitative Finance and Risk Management Science
University of Toronto, Canada

I went on an exchange to the University of Toronto where I learned a lot, benefitting from both the experience and my academic studies. During my exchange I took five courses: ACT370 (mathematical theory of financial derivatives), MAT267 (advanced ordinary differentiation equations), APM236 (applied linear programming), STA447 (stochastic process) and RSM433 (advanced corporate finance).

Among the courses I took, MAT267, STA447 and RSM433 were quite different from the courses I have taken at CUHK. MAT267 and STA447 were highly mathematically oriented and involved many abstract theories. At first they were quite challenging, so I spent a lot of time on them and visited my professors during their office hours. The professors helped me understand the abstract theorems by providing many examples.

At the University of Toronto, I not only gained a lot of knowledge, but also learned the method of studying abstract concepts through examples. In RSM433, I learned not only about corporate finance theories, but also, after doing 10 case studies, how to relate those theories to the real world. Throughout the course, I learned that when we study finance theory, we usually assume the market is perfect and does not contain any friction. However, the real world is always full of friction, so we need to study the cases carefully and always relate finance to strategy. Through this course, my ability to solve the cases greatly improved.

During my visit to Niagara Falls, its high park and island parks, I was amazed by the beauty of nature, which was worth further exploration. During my visit to an icy hotel and a dog sled, I enjoyed the artefacts and activities in the ice world, which I could never have explored in Shenzhen or Hong Kong. From tourism, I learned that different places have different climates, different people and different cultures, and therefore are beautiful in different ways that I could appreciate.

I would like to express my sincere gratitude to the Statistics Department. Thank you for sponsoring my exchange. It was a meaningful and fruitful experience.

LI, Tsz Hei

Bsc in Statistics
McGill University, Canada

Before coming to Canada, my only knowledge of this place was that it was huge and far away from Hong Kong. This was a good chance for me to learn about the Canadian culture starting from zero. Canada is filled with immigrants and different races, including Caucasians, Blacks and Asians, especially the place I went on exchange to, Montreal. Thousands of people have come to Montreal because it is in the French-speaking region of Quebec and because it has one of the best schools in Canada, McGill University. Most people in Montreal speak both English and French, which makes the culture of the city more diverse and international.

People may think that there is no entertainment in Canada. However, Canada has national parks across the country with stunning views and landscapes, such as the Banff and Jasper National Parks. You can go hiking and see the iconic maple trees with fall foliage in autumn. During winter, you can ski or snowboard in the mountains, which is fun and exciting. I would also recommend ice-skating on real ice because it is a unique experience to skate outdoors, absorbing the natural views of Canada.

If you want to visit Canada, I would definitely recommend coming in the summer. Because the weather is much better, you do not have to walk down the street in strong winds and snow, or experience temperatures under -20°C. You can enjoy outdoor music concerts or festivals where there are hot air balloons and international fireworks competitions. You will be busy participating in different events. With the sunshine and breezes, you can spend your afternoons chilling with friends or picnicking on the grass in one of the parks.

In addition to the experience of living in Canada, studying at McGill also inspired me. The active learning and curiosity of the students became obvious after attending only a couple of lessons there. With a different learning atmosphere, the exchange life was not designed for just play and travel. We had to work hard, deal with stress from peers and manage large workloads. Nevertheless, studying at McGill University and meeting friends from all different countries and backgrounds was a good opportunity.

I am really grateful that I had a chance to study for a year at a different overseas school. You never know how much you can grow from experiencing new things until you take a chance. I tried many new things in Montreal, such as learning French and Latin, attending hackathons and interviewing a company manager for a project. I also learned to adapt to new places. For example, the extreme weather in Montreal made me more aware of the body's tolerance of cold. I also had to get used to living with a group of foreigners. Being in a group, out of my comfort zone, helped me meet new people and further discover who I am. There were just too many tiny things I learned during this exchange programme. I do not regret having gone on it.

LI, Wing Yiu

BSc in Statistics
University of South Carolina, United States

During my exchange study at the University of South Carolina in the United States, I took several courses in business statistics and calculus for business administration and social science, which were related to my major at The Chinese University of Hong Kong. These courses enabled me to gain better global views of the world of business statistics and applied mathematics in business.

Apart from my studies, I participated in the buddy programme organised by the international student services office. I was paired with a current student at the University of South Carolina who shared many of her own academic experiences and the lifestyle and culture of South Carolina. I not only met my buddy, but I made many friends from different places such as Brazil, the Czech Republic and South Korea, in addition to the locals. Through the buddy programme, I gained a better understanding of American life and also had a chance to share Hong Kong culture with the other students. This experience of cultural exchange certainly broadened my horizons and inspired me.

As for the vibe of the city, Columbia, was utterly different from Hong Kong. Throughout this self-motivated and self-managed exchange period in such a relaxing environment, I understood more about myself and discovered what I really needed and wanted. I found a clear goal that I want to achieve in the future.

I would like to express my sincere gratitude to the department for its support and for sponsoring my exchange study. This exchange experience not only provided an opportunity for me to explore the world and nurture a global mindset, it also helped me become more independent and equipped me with more strength when facing difficulties. I am grateful to have had such an invaluable experience studying and living in a foreign country.

WONG, Dzi Hin

BSc in Risk Management Science
University of Sussex, United Kingdom

In term one of the academic year 2017/2018, I had a fruitful experience studying at the University of Sussex in the United Kingdom. I studied three mathematics courses and one extra course related to film studies. I learned the difference between education at the host university and at CUHK. In addition, I made friends from the UK, US, Greece, Czech Republic, Japan and China who I learned a lot from.
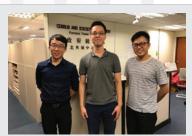

Two out of the three mathematics courses I took were year four equivalent courses, and the remaining one was a graduate level course. I could see the cohesion among the courses the host university had tried to make. Many concepts or solutions were based on the knowledge obtained from previous courses. The teaching staff knew clearly what level of knowledge their students had. They did not spend much time reviewing the prerequisite knowledge. Instead, they skipped the explanations and taught the more difficult material. They explained things only when a student had a question, and if the explanation would take too much time, it would be explained after class. The students there were less conservative than the students at CUHK, where asking questions during the lesson is normal. In addition, the homework assignments were, surprisingly, marked by the teaching staff. They clearly understood the common mistakes of the class and each person's progress. They also wrote comments on the assignments, pointing out the incorrect steps and concepts in the solutions.

I took the film studies course out of curiosity because this type of course is not provided at CUHK. I learned how to analyse a film from different aspects: mise-en-scène, editing, cinematography and music. The seminars in this course really provoked discussions of the film assigned each week.

I met people of different origins. Although they came from diverse backgrounds, they were generally very nice. Some were even interested in Chinese culture and cuisine. At the same time, I learned about their cultures. Unfortunately, even in a town as diversified as Sussex, racism still existed. There was a South Korean student at the host university who was beaten with glass bottles by a gang of local teenagers when he was walking back home, and he was sent to the hospital. Therefore, I would recommend that exchange students in the future be more cautious when walking alone on the streets at night.

Department of Statistics
Summer Internship 2018

Census and Statistics Department ✚

I am grateful I could work in the General Household Survey Section (2) of the Labour Statistics Branch (5) this summer.

CHAN, Cheuk Hei
BSc in Statistics

My duties included creating a readable file for Canadian Census Editing and Imputation System (CANCEIS). This imputation system helped to handle missing problems and inconsistencies between the data. Because the original datasets consisted of several parts and had some problems that were unreadable for CANCEIS, I used the SAS programs I had learned how to use at the CUHK. I merged the dataset and converted the format so it could be read by CANCEIS. Apart from preparing the input data using SAS, I had to prepare other necessary components for CANCEIS.

I enjoyed working in the C&SD for these two months. I am thankful to the Statistics Department and C&SD for giving me this experience.

PENG, Zhichao
BSc in Statistics

During a two-month attachment programme, I was assigned to the Science and Technology Statistics Section.

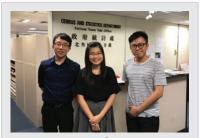I was pleased to refine my skills through real work tasks and apply what I had mastered at the University, like SQL and survey design knowledge. At the same time, I learned new things like Access VBA and understanding the entire survey process of the S&T section.

My supervisor at school, Professor Phillip Yam, also gave me tasks to compile LaTex notes and translate machine learning material, from which I learned a lot about both coding with LaTex and machine learning. He is such a nice person, and gave me many suggestions on learning. I would like to thank him for being patient with me for the entire time.

I would like to express my gratitude to the Department of Statistics for offering me this internship opportunity. I sincerely hope that more statistics students can benefit from such internship programmes in the future.

CHIN, Yan Yi
BSc in Statistics

In this internship programme, I was assigned to the General Household Survey Section (2) of the Labour Statistics Branch (5).

My duty was to prepare the necessary Canadian Census Editing and Imputation System (CANCEIS) input components in Excel format for reading the General Household Survey (GHS) datasets. The input components included a data dictionary, imputation parameters, system parameters and decision logic tables (DLT) for the GHS validation rules. For the DLT, I learned how to use a deterministic engine (set conditions and actions) and donor imputation (set rejection rules) to validate the data. By setting the weights and distances of the imputable variables, I understood more about the logic and theory of how the CANCEIS validates data.

Overall, this summer internship programme was meaningful and delightful. I would like to express my gratitude to my supportive supervisor and colleagues. The soft skills and statistical knowledge I learned this summer will definitely help me prepare for my future career.

LAW, Tsz Yan
BSc in Statistics

Over the past two months, I was mainly responsible for the Technical Secretariat. Because my supervisor knew I was interested in machine learning, she invited her colleague to set up a talk for me and another summer student. He mainly focused on how machine learning can help distribute the codes for shipping statistics, which would undoubtedly boost efficiency. This really widened my horizons and helped me learn more about the mechanism of machine learning.

I am so grateful to have been selected to join the C&SD programme this summer. I learned a lot and enjoyed the working environment of the department. With my nice colleagues, I had a fruitful and memorable experience during the two months. I hope the skills I learned this summer can be applied to my future career.

I was very pleased to have this precious opportunity to work as an intern in the Census and Statistics Department this summer.

My main assignment was to conduct desktop research on the latest international developments in the International Investment Position (IIP), mainly in the area of the IIP reconciliation statement and IIP by currency.

Throughout the entire internship, I not only gained financial knowledge, I also acquired practical soft skills. I had regular consultations with my supervisor, who gave me professional suggestions and guided me in improving the organisation of the results I got. This was useful not only for this internship but also for my future career.

I was glad to have this valuable experience working at the C&SD. I would like to express my gratitude to my supervisor Dr Ho, Miss Tam and my colleagues. This real-life work experience will certainly help me in the future.

WONG, Ki Yan
BSc in Statistics

Centre for Clinical Research and Biostatistics

FUNG, Wing Ngai
BSc in Statistics

During my two-month internship, professor Zee allowed me to analyse a dataset and then write a paper. I could apply the analytical skills I learned from school, such as univariate and multivariate analysis. I also needed to learn some analytical skills on my own, such as multiple imputation and categorical data analysis, because I had not studied them previously. Professor Zee taught me how to write an analysis plan so I could perform the analysis in a more systematic way.

In addition to this work, I participated in some outreach services for the elderly. We helped the elderly assess their stroke risk level using an invention developed with statistics. Helping the elderly was very meaningful. The invention also widened my horizon because it showed me how statistics apply in real life.

This summer internship programme was very meaningful. It provided me with a chance to conduct analysis so I could achieve a deeper understanding of research work. I think this experience will be very useful to my future work.

NG, Suet Yi
BSc in Statistics

Working at the CCRB during a two-month summer internship was a great experience. I am grateful to have been given an opportunity to work with Professor Zee and the CCRB staff. They all offered to help me with my work at the CCRB.

The main task I was assigned was to do a report analysing a dataset. To do the project, I was asked to use the statistical skills I had learned at school. Apart from writing the report, I also had a special experience during the internship: collecting first-hand data. Through this process, I understood that data collection was an important part of the analysis because the data we obtained would affect its result.

I am grateful for this valuable opportunity to work at the CCRB this summer. The people I met there were nice and they taught me a lot that the books did not. It was great to be a part of the CCRB's summer programme.

New Media

Working as a summer intern at the New Media Group was a precious opportunity and rewarding experience for me. During the internship, my primary duty was to restructure and refine the existing customer database, which was vital to the company's strategy for E-mail Direct Marketing. I was so excited to apply the theories I had learned from lectures to real-life scenarios.

Although I was the only intern and youngest member on the team, fortunately, everyone in the office welcomed me enthusiastically and helped me whenever I stumbled across problems. They were great mentors at work. They also gave me a lot of insights into the industry, which have been very useful to my career planning. Having completed this internship, I have more confidence in my interpersonal and problem-solving skills. I enjoyed my work at the New Media Group very much.

TSE, Kwan Nok
BSc in Statistics

This summer, I received the chance to do a summer internship at the New Media Group, which enriched my summer life and improved my practical statistical skills.

During these days, I tried various tasks, such as acquiring and managing data from primary or secondary data sources, interpreting data, analysing results using statistical techniques, providing ongoing reports and filtering and cleaning data by reviewing the reports. These tasks gave me a clear picture of my future job. They also reminded me to learn to convert theory into practice, which was good for my progress. Through this experience I recognised myself again. I found that I lacked a little bit of creativity, even though I made a down-to-earth effort. In the days to come, I will try my best to make up for my weakness and improve myself.

In a word, I really appreciate that our department and the New Media Group gave me this precious opportunity and let me grow up.

XU, Weiwei
BSc in Statistics

For full-text articles, please visit:
http://www.sta.cuhk.edu.hk/Programmes/UndergraduateStudies/Internships/InternshipSharing2018.aspx

MAN, Pui Yi
BSc in Risk Management Science
HKEX

For eight weeks last summer, I worked at the Hong Kong Exchanges and Clearing Limited (HKEX) as an intern. Each of the 23 summer interns was assigned to a supervisor. A few seminars were held to help us understand the daily operations of each department at the HKEX and give us a comprehensive picture of the company.

In the middle of the internship, the interns had a presentation contest. The contest created an opportunity for us to discover more about the global role of the HKEX, and through research and analysis develop our presentation skills. Giving a formal presentation in front of 100 people, including senior executives, provided a unique and valuable experience. In addition, I had a great time with my supervisor, who inspired me in many ways. I learned to make the extra effort and be well prepared before every meeting so that progress could be efficiently made. I learned the importance of collaboration, how each individual contributed to the team through his/her unique strengths and profession and how we could learn from each other regardless of seniority. I really appreciated my supervisor's commitment to lifelong learning.

I gained far more from this internship than I had anticipated. I did not expect people to be so willing to give us guidance, and I did not expect such an amiable supervisor who would inspire me and teach me life lessons. I was also lucky to meet a lot of enthusiastic and crazy colleagues. Their laughter made me look forward to going to work. The work experience at the HKEX was definitely one of my most enjoyable summer moments.

POON, Ling
BSc in Risk Management Science
CASH Algo

Working at CASH Algo offered me a valuable opportunity to learn about trading, and particularly about algo trading. My supervisor, Dr Alfred Ma, provided the interns with an appropriate environment within which to absorb knowledge and grow. I was given tasks from the different stages of production so I could see the entire picture of algo trading. I am very thankful for Dr Ma's guidance.

The first task I was given was to review hypothesis-testing methods. Monitoring strategic performance is an essential and major part of the work of algo trading. The profitability of a strategy may decay due to a fundamental change in the environment or increasing competition. My job was to search for appropriate methods, test for differences in backtesting and real trade returns and then implement them in Python. The experience of coding in Python and seeing examples of real data helped me quickly learn the data-handling procedures in Python.

Although I do not normally read the papers before internships, I learned that a lot of academic knowledge and trading ideas could be gained from doing so, and I learned how to search for the relevant papers.

Moreover, I was able to work with high-calibre colleagues who were very knowledgeable about trading and academia. I had many interactions and discussions with them and learned a lot of trading concepts. Although these results had no physical output, they were equally important to my development.

Overall, the internship was a fruitful experience that allowed me to gain practical knowledge in algo trading, improve my attitude towards work and establish networks within the industry.

WUN, Tsz Chung
BSc in Risk Management Science
Ernst & Young Advisory Services Limited

It was a pleasure to work as a risk advisory intern in the Financial Service Risk Management Department of Ernst & Young Advisory Services Limited from January to April 2018.

I participated in a famous local bank project during the programme. The scope of this project involved developing an internal-rating-based (IRB) system that included several scorecards, and calculating the probability of default (PD), exposure at default (EAD), loss given default (LGD) and risk-weighted assets.

I was assigned some easy tasks in the first two weeks, such as preparing the presentation materials and writing model documents. After the honeymoon period, I assisted with the SAS program and Excel tasks. It was difficult for me to use SAS because I had no prior knowledge of the program. When working on the primary stages of a certain project, things can change very quickly and dramatically. Fortunately, my supervisor was nice and patient when offering explanations. I caught up quickly and assisted with the SAS work.

During the project, I had to apply the statistics and programming knowledge I had acquired from lectures. I was happy to use all of my theoretical knowledge and apply it to real-life situations, such as using an F-test to separate the dataset, reading the regression outcome from SAS and writing a VBA program for a different task.

I also acquired new knowledge of the elements of credit risk (PD, LGD and EAD) and the risk management system in a commercial bank. I had a chance to familiarise myself with the VBA and SAS programs, which will be useful in my future career. Before my first day at Ernst & Young, I knew nothing about credit risk. I would never have known how the IRB system works if I had not interned there.

Overall, my work experience at Ernst & Young was positive and meaningful. I am happy with many of the things I learned and experienced during my four and a half months as a risk advisory intern with the company. I believe my experience at Ernst & Young improved my abilities and gave me insight into Hong Kong's risk management and compliance industry.

To conclude, the internship was a fruitful experience that allowed me to gain practical knowledge in algo trading, improve my attitude towards work and establish networks within the industry.