



## “Make use of what you have already had!”

GS founding dean awarded prestigious medal

The news that Professor Howell Tong, professor of statistics at the London School of Economics, also the founding Dean of Graduate School, and Honorary Professor of Statistics and Actuarial Science Department, was awarded the Guy Medal in Silver 2007 by the Royal Statistical Society brought great excitement to the Graduate School. The medal was awarded to him for his many important contributions to time series analysis, and in particular for his fundamental highly influential paper *Threshold Autoregression, Limit Cycles and Cyclical Data*, which paved the way for a major body of work in nonlinear time series modeling.

The medal has a history of 114 years and until now, there are only 79 people in the world who have the honour of receiving the medal, and Professor Tong is the first Chinese scholar being awarded the medal.

Professor Tong said: ‘It is a great honour to be awarded this medal, which I accept with all humility especially when I look at the list of past recipients. I feel that I am particularly lucky in being able to benefit from two cultures in more sense than one...’

From the beginning of time series analysis, modeling was dominated by the assumption of linearity. This situation lasted until almost the end of the 1970s. Like many statisticians of Professor Tong’s generation, he was ill-equipped mathematically because what he had received was predominately an education in linear mathematics. ‘I was badly taught!’ said Professor Tong.

Professor Tong realized that he had to teach himself a new subject from scratch. He started to read the books by Minorsky (1962) and Andronov and Khaikin (1949). The original text of the latter was in Russian, which Professor Tong could not read. Luckily, he got hold of a Chinese translation by chance. ‘The copy I acquired was a castaway that arrived UK from Shanghai during the turmoil known as the Cultural Revolution. Ironically, I have benefited culturally from the revolution!’

By the later part of 1978, Professor Tong had written up a paper on threshold autoregression and submitted it to a prestigious journal in the US. Review was basically positive but revision was needed. But the

revised paper was at last rejected because of change of personnel on the editorial board. Most of us might feel dejected under such circumstances, but not for Professor Tong. Because he thought he could always try a better platform, namely, a discussion paper read to the Royal Statistical Society.

The paper did not attain instant acclaim as it was such a new idea which definitely needed time for people to absorb and digest. Nowadays, his threshold autoregression model has been so successfully applied to many aspects, among others, ecology, econometrics, economics, finance, actuarial science, hydrology and medical science.

When we asked Professor Tong for his valuable advice on how to be a good researcher, he replied: ‘Make use of what we have already had and do not limit ourselves. We are lucky to be in Hong Kong – a place where we can approach both Chinese and western cultures. We have the advantage to learn from the positive sides of different cultures and philosophies. We have the privilege of possessing two different language skills. Imagine if I could not read Chinese, I could never have made use of the translated Russian book. It is also important that we have to learn how to find good books to read and have an all-round exposure.’ He also encouraged our young researchers that they should not be afraid of failure. If he had doubts about his work when his paper was rejected by the US journal, he would not have had the achievement he now has.

Professor Tong has previously been awarded the National Natural Science Prize by the Chinese Academy of Sciences and the Distinguished Research Achievement Award by the University of Hong Kong.

The Guy Medal will be presented to him at the annual meeting of the Royal Statistical Society on Wednesday, 4 July.

### More about Professor Tong and his achievements:

- 1 Tong, H. (2007), Birth of the Threshold Time Series Model, *Statistica Sinica*, vol. 17, 8-14
- 2 [http://www.stdaily.com/big5/stdaily/2007-05/23/content\\_672573.htm](http://www.stdaily.com/big5/stdaily/2007-05/23/content_672573.htm)
- 3 [http://www.imstat.org/bulletin/Bulletin36\\_3.pdf](http://www.imstat.org/bulletin/Bulletin36_3.pdf)
- 4 <http://www.lse.ac.uk/collections/pressAndInformationOffice/newsAndEvents/archives/2007/HowellTongAward.htm>



### About the Guy Medals (Royal Statistical Society, UK)

Named after the distinguished statistician, William Guy FRS, the Guy medals are intended to encourage the cultivation of statistics in their scientific aspects and promote the application of numbers to the solution of important problems in all the relations of life in which the numerical method can be employed, with a view to determining the laws which regulate them.

# Statistical significance and substantive importance of research results

Dr Beverley Webster

Graduate School Course Coordinator

What does it mean when we say “the results of my analysis are statistically significant, that the results of the independent samples t-test showed significant differences between the mean scores obtained by the intervention group and those obtained by the control group”? Let us say, for example, in education we were investigating the outcomes of students who take science exams in English and those who take science exams in Chinese to see who achieves better grades. If our results show a statistically significant difference in outcomes for those students taking science exams in Chinese achieving higher scores than those who take exams in English, does it tell us that this difference is educationally important and that students should take exams in Chinese? As a further example, in clinical studies, would we consider changing our practice or recommending a particular treatment method if we found that “the combination of occupational therapy and clozapine showed statistically significantly better outcomes in patients with treatment resistant schizophrenia than the use of clozapine alone?”

Even though, in our research, we may identify statistically significant results, it can help us focus on a more relevant interpretation of those results if we consider the quote ‘a difference to be a difference must make a difference’ (Huff, 1954, p.58). In hypothesis testing, statistical significance is affected by issues such as sample size and the level of measurement with which the data were collected, and the variation within the data that is collected from the sample.

There is no guarantee that a statistically significant result is going to be one of substantive or meaningful importance for your research.

What would seem more appropriate is to discuss the results in terms of the effect that this difference has. Effect size is about the magnitude and importance of findings and not only the statistical significance of findings. Effect size has been said to be ‘the degree to which a phenomenon is present in the population’ or ‘the degree to which the null hypothesis is false’ (Cohen, 1988, pp. 9-10). Not to say that magnitude of effect, which refers to the size of the effect, is automatically synonymous with importance or meaningfulness. For example, in an investigation of hand writing skills, is a difference of 1.34 (on a scale of 0 – 10) between two intervention groups, A and B, a meaningful outcome? Even if the results show a statistically significant difference, the real question must be “does a difference of 1.34 indicate that the intervention for Group A made a real and substantive difference in handwriting skills for those students above and beyond any differences observed with Group B?” This is a question that is asked and answered at the commencement of a study and not at the end. A researcher should have made decisions about what would be considered a meaningful difference relationship prior to conducting the study – what would the expected effect size be?

The decision about expected effect size would be based on knowledge of the population’s normal statistics. Questions one might ask; what are the average scores or measures of the outcome, what is the variation in the normal population? In your area of your research you should be able to find this information out to help you decided on an expected effect size. Let me give you an example on how you may decide on the expected effect size. We may believe, based on previous experience or information presented in the literature, that, for an intervention to improve passive range of motion of the subluxated wrist in children with arthritis, there should be an increase in wrist extension of 15 degrees or more within the first 6 months. Hence, our expected effect size would be 15 degrees of wrist extension passive range of motion. Further, if we also knew that the variance within the population of children with arthritis was 21 degrees, we could then calculate the standardized effect size, which we would use in the calculation of the sample size for our study. The standardized expected effect size (an estimate mostly between 0 and 1) in this case would be  $15/21$  (expected es / pop variance) = .714. In the absence of enough information with which to base your decision about expected effect size you can use the ‘conventional effect sizes’ (Cohens d) for differences between groups which Cohen (1988) proposes; small ( $d = 2$ ), medium ( $d = 5$ ), and large ( $d = 8$ ). It is important to remember that the magnitude of the effect size does not equate to importance, so you may not always be expecting a medium to large effect.



## Its: some thoughts on effect size

In some intervention studies, it is more realistic that a small effect would be considered important, for example, in the treatment of some rare conditions it may be that effectiveness is determined by small changes in the condition.

It is a good practice in the reporting of research results to include effect sizes in the output of statistical analysis. This does not always happen however, as a reader you may be able to calculate what we call the achieved effect sizes, those that have been obtained by the data collected from the sample in the research. As an example, the authors of an article where the research involves looking at difference in English language outcomes for students who attend after school tutorial and those who do not are, report statistically significant differences ( $t = 2.43$  (df 400) and  $p = .012$ ). You can calculate the achieved effect size by;  $2 * t / \sqrt{df}$  which with these reported figures would give an achieved effect size of  $\sim .243$  ( $2 * 2.43 / \sqrt{400}$ ). As the reader you can draw your own conclusions as to whether you believe this effect of the differences between the two groups to be substantively important.

This obsession with statistical significance is understandable when we consider that to find results statistically significant is usually what we are aiming to achieve. In educational studies, we want to make a breakthrough and find a better way to teach, a better way for students to learn, or to achieve improved educational outcomes. In clinical intervention studies, we are also looking for more effective treatments; we want better outcomes for our clients. It can be said that it is also more exciting to report results that are statistically significant than those that are not. The peer reviewed literature is sometimes said to inflate this phenomenon by publishing more work with results that are statistically significant than work with results that are not, known by some as the prejudice against negative results (Furedy, 1978; Greenwald, 1975). Statistical evidence is critical, but not in isolation nor at the expense of substantive, meaningful importance.

*Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.*

*Furedy, J. J. (1978). Negative results: Abolish the name but honor the same. In J. P. Sutcliffe (Ed.), Conceptual analysis and methods in psychology: Essays in honor of W. A. O'Neil (pp. 169-180). Sydney: Sydney University Press.*

*Greenwald, A. G. (1975). Consequences of prejudice against the null hypothesis. Psychological Bulletin, 82, 1-20.*

*Huff, D. (1954). How to lie with statistics. New York: Norton.*

## Stephanie Ma

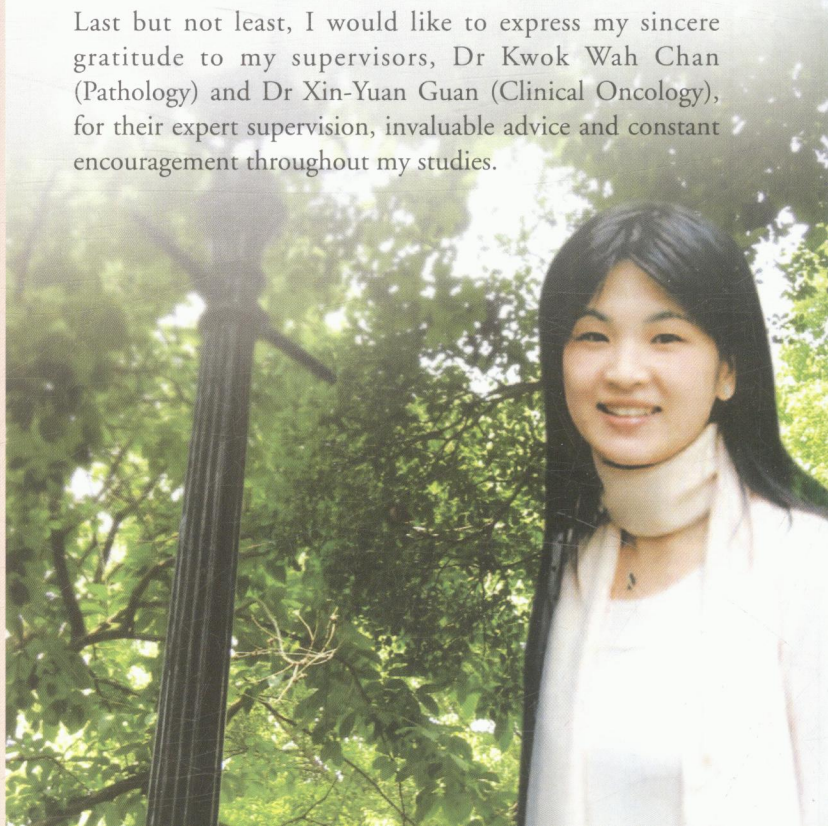
PhD Student, Department of Pathology

### International Society for Stem Cell Research (ISSCR) Travel Award Awardee

I am currently in my second year of doctoral studies in the Department of Pathology with project interest focused on the identification and characterization of liver cancer stem/progenitor cells. My work relating to my studies have recently been recognized and I was fortunate enough to be awarded the International Society for Stem Cell Research (ISSCR) Travel Award to participate and present at the upcoming ISSCR Annual Meeting in Cairns, Queensland, Australia in June 2007. The title of the paper that will be presented is "Identification and Characterization of CD133+ Hepatocellular Carcinoma Cells as Cancer Stem/Progenitor Cells" by Stephanie Ma, Kwok Wah Chan, Irene O Ng, Bo-Jian Zheng and Xin-Yuan Guan.

As dedicated as I am to my academic life, I believe that the key to being a successful scientist is not solely based on good grades or working endlessly in the laboratory, but also to obtain the most updated findings and to exchange findings and knowledge with those who share the same interests and passion. One of the best ways to do this is by participating in internationally held scientific conferences. The ISSCR Annual Meeting is the largest conference in the stem cell research field and I feel most privileged to be given the opportunity to participate in it. I look forward to further broadening my knowledge and scope in the cancer stem cell field via this occasion.

Last but not least, I would like to express my sincere gratitude to my supervisors, Dr Kwok Wah Chan (Pathology) and Dr Xin-Yuan Guan (Clinical Oncology), for their expert supervision, invaluable advice and constant encouragement throughout my studies.



## On abandoning my thesis “The life so short, the craft so long to learn” – Hippocrates



“At some point, you simply have to abandon your thesis – it will never be finished,” someone said to me when I asked him for advice on writing. And in the past few months, I began to realise how true this statement is. A piece of work is never completed, but abandoned. I have read about writers who continue to revise their works even though they have been published decades ago. There is a story about an artist who was caught vandalising museum property – he sneaked into the museum in the middle of the night so as to touch up his own painting.

So I abandoned my thesis. It was with a sense of relief and apprehension that I submitted my Ph.D. thesis for examination in November 2006. Relief, because I know my work is done (at least for the time being.) And apprehension, because I wonder if I will ever again have the luxury of such a long period of uninterrupted reading and writing.

The past three years has been meaningful and wonderful for me because the School of English has provided its postgraduates with a utopian space for research. Some of the landmark events organised by the school include talks by prominent poets such as Seamus Heaney and Rita Dove, as well as a conference on travel writing which attracted prominent scholars from around the world. As a poet, I find the Moving Poetry project, whereby writers based in Hong Kong and elsewhere are invited to conduct summer creative writing workshops for primary and secondary school students in Hong Kong, to be heartening. For me, this is evidence of the school’s commitment to reach out to the larger community. I remember fondly the weekly after-seminar chats (and the seminars themselves, of course) with faculty, fellow postgraduates and speakers at the Senior Common Room.

My thesis supervisor, Dr. Elaine Yee Lin Ho, has been very supportive of my research on the colonial and postcolonial literatures of Singapore and Malaysia. I remember her advice at our very first meeting three years ago: “If you want to be a scholar, then start behaving and thinking like one now, instead of waiting until you get your

Ph.D. That’s the best kind of training you can give yourself.” I have taken her words to heart, and this is one advice I would like to pass on to fellow postgraduates.

If I may offer another piece of advice, it is to treat your studies as both a vocation and avocation. It is a vocation because it is a job like any other, which requires time, effort and seriousness of intent. There are deadlines to meet, people to account to and responsibilities to fulfil. It is an avocation because ultimately, our work is ourselves and our final allegiance is to the intellectual and emotional maturity of our being. We are the gatekeepers of our thoughts, engaged in the quiet revolutions that occur every day in the recesses of the mind.

### *About the contributor:*

*Eddie Tay is from Singapore and was a postgraduate student at the School of English from 2003 to 2006. He has been appointed Honorary Assistant Professor and will be teaching two courses in semester 2 of 2006-2007. He is also teaching another course at the Department of English, CUHK. He is the author of two poetry collections, Remnants (Singapore: Ethos Books, 2001) and A Lover’s Soliloquy (Hong Kong: Sixth Finger Press, 2005).*



## Visit of the Delegation of the Association of Chairmen of Graduate Schools (ACGS, 中國研究生院院長聯席會)

In March 2007, the Delegation of the ACGS visited Hong Kong to meet with administrators of postgraduate education in universities in Hong Kong. The purpose of the visit was to promote mutual understanding of the postgraduate education system in the universities in Hong Kong and the Mainland. This was the Association’s second visit to Hong Kong and their visit was of significant importance to us as it signified the official exchange between the University and the Association. The first visit was in March 2003. This year, the delegation consisted of 17 Graduate School Deans/Associate Deans from top universities in Mainland China.

From 21 March to 28 March, the Delegation had visited the Graduate Schools / Postgraduate Studies Offices of The University of Hong Kong, The Hong Kong University of Science & Technology, Hong Kong Baptist University, The Chinese University of Hong Kong, Lingnan University, The Hong Kong Polytechnic University, and City University of Hong Kong. They also visited the Hong

Kong Council for Academic Accreditation and the Beijing-Hong Kong Academic Exchange Centre.

On the day they visited HKU, the Delegation also met some of the graduates from their own institutions who were currently registered here. Our students were very excited about meeting the Deans and Associate Deans of the Graduate Schools in their alma mater and they had a very enjoyable gathering together.



*The delegation and student representatives*

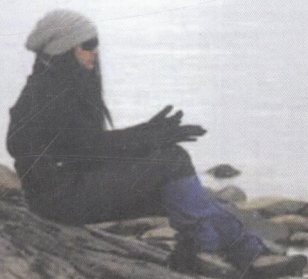
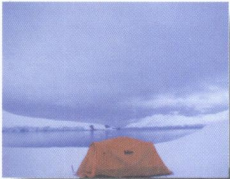
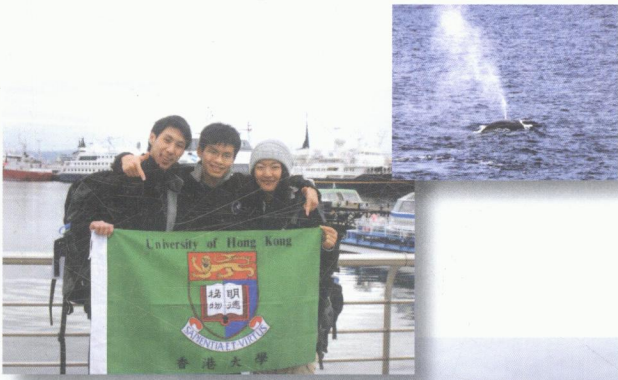
# International Antarctica Expedition – Zhou Yang

During 17 February to 3 March, as one of the five Hong Kong/China student representatives, I went to Antarctica with explorer Mr Robert Swan and his fifth Inspired Antarctica Expedition team. The purpose of this trip was to allow student like me to understand firsthand the global warming impact on the world's last pure land.

The 15-day journey began in Ushuaia, Argentina, the southernmost city in the world. We spent several days in Ushuaia for training and team exercises, and then we boarded an ice-strengthened marine vessel and set for Antarctica. We crossed the most notorious sea in the world, Drake Passage, and arrived King George Island, a peripheral island of Antarctica Peninsula. We helped Mr Swan open his educational e-base in the island and visited the China Great-wall scientific station. After a short stay, we boarded on ship again and headed south. Along the way to the peninsula, we had chances to appreciate the magnificent landscapes. We encountered huge icebergs that were only seen on TV; we visited several small islands, whose only residents were penguins and seals. Finally we arrived the Antarctica peninsula. We went onshore, explored the land, observed the eco-system, hiked on the glacier and camped for two nights.

Many people asked me what the most memorable moment during the whole trip was. It was not the time I saw iceberg collapsing; neither was the time I saw whales. It was the peaceful and quiet moment when our ship was crossing Beagle Channel, the narrowest point in Antarctica which was sided by spectacular glaciers. I stepped outside the cabinet to watch the view. It was a cold afternoon, snow was coming down, piece by piece. The ship was slipping on the water, slowly and neatly avoiding big floating icebergs. There was no sound except occasionally albatross tweeting. It was the moment that I felt "I AM in Antarctica". It was such a peaceful and beautiful land, we should really try to protect it and keep it the way it is.

However, global warming is seriously damaging the environment and ecosystem in Antarctica. During the trip I learnt that the glaciers in Antarctica were melting in a worrying speed and the population of penguins was severely impaired. It is time that every one of us, who is part of this world, to do something to save Antarctica, to save the environment around us. As an individual, you can do a lot more than you think you can save the environment. Small things like turning off lights and recycling paper can make big differences. As Mahtma Gandhi said, we should live more simply, so that others can simply live.



# English Language Improvement

Improve your English with the Language Resource Centre  
and the Virtual English Centre.

These resources are provided by the English Centre.



Whatever your level of English, it's always a good idea to continue improving your skills. The Language Resource Centre (LRC), the Virtual English Center (VEC), and our English Centre teacher/consultants can help you to do this.

The LRC and VEC provide the following resources for all HKU students:

- ❖ Speaking opportunities
- ❖ Pronunciation workshops
- ❖ English language movies
- ❖ One-to-one consultations
- ❖ International magazines and newspapers
- ❖ Grammar, vocabulary, pronunciation books and more...

You can catch up with Friends, Sex in the City, and the latest Hollywood movies. Individual consultations are available with English Centre teachers. There are regular group discussions with other students; topics can be chosen by the participants. There is a large variety of English language reading material, and also specific books and tasks to help you focus on your weaker areas of English.

The *Language Resource Centre* is on *4/F, Meng Wah Complex*, Mon-Fri 9 am – 6 pm. Just a few minutes from the canteen! Visit the *Virtual English Centre* any time: <http://ec.hku.hk/vec>.

## Summer Institute by English Centre of HKU

Every year in June, the English Centre of HKU offers a wide range of Summer Institute courses that allow students to choose to focus on their own areas of interest, relevance or weakness, whether these concern general, professional or academic language skills. Special interest courses are also offered for students to learn English through understanding English culture and the arts.

The courses are open on a voluntary basis to both undergraduate and postgraduate students across all faculties and all year groups at the University. Over the past few years, the Summer Institute has attracted an increasing number of postgraduate students. Courses especially popular have been English Pronunciation, Strategies for Confident Conversation & Discussion, Grammar Improvement for Effective Communication, and Advanced Oral Presentation Skills.

Enjoy your English improvement 😊

The Curator  
Hung On-To Memorial Library



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