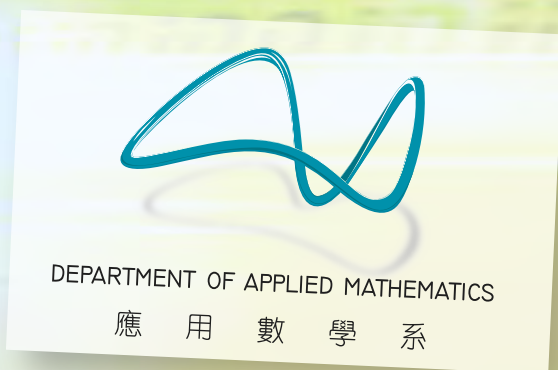## Message from the Head

Welcome to the first edition of the Newsletter of the Department of Applied Mathematics. With this newsletter, we hope to provide a regular update of the activities of the Department to our readers. We certainly wish to make it both informative and interesting.

In this first issue, I wish to highlight a couple of important events since the end of last year. Firstly, AMA will be offering our own UGC-funded B.Sc. Programme in "Investment Science" from September 2007. It will be one of the significant and popular programmes of the University. On the research side, the recent Research Assessment Exercise has shown an improvement of more than three-fold in the research index for AMA over the last four years. We will strive to achieve further improvement in the years ahead. As Head of Department, I wish to commend on the great efforts of our colleagues who work so hard over the past few years. On the recruitment of senior staff, I am delighted that Professor Qi Liqun will return to the Department as Chair Professor of Applied Mathematics and Head of the Department from 1 June. I am sure that members of the Department look forward to working closely with Professor Qi in the years to come.

We also wish to make use of this newsletter to reach out to our friends, alumni and students. If you have any ideas or suggestions on our Department's academic, research or other activities, please feel free to let us know. Your direct contributions to this newsletter are also most welcome and appreciated.

CK Chan

Departmental Logo Competition

DEPARTMENT OF APPLIED MATHEMATICS
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Mr. Ting Hei Lam, Larry of SD was the winner of the AMA Departmental Logo Competition. The runners-up for the competition are Mr. Lam Kam Bun and Mr. Ho Kai Hong, also of SD. An award presentation ceremony to honour the winning designers will be held in September 2007. Meanwhile, the winning design will be incorporated into our Department's official publications from now on.

Lectures by Professor Sir Clive Granger

In celebrating the University's 70th Anniversary, we were very excited to have the honourable visit of Professor Sir Clive Granger in May 2007. Professor Sir Clive Granger is a Nobel Laureate in Economics, 2003. He was invited by the Department to deliver two lectures – the Public Lecture held on 16th May and the Distinguished Lecture held on 17th May.

In the Public Lecture, Professor Granger expressed his unique views on the Evaluation of Global Economic Models which prompted a number of perspective discussions on the topic. The Lecture was co-organized by School of Accounting and Finance and the Hong Kong Statistical Society. It was officiated by Professor S. Demokan, VP (Academic Development) in the Chiang Chen Studio Theatre.

In the Distinguished Lecture, Professor Granger displayed his witty and impeccable ideas of Time Series Models for Quantiles, in particular, the consideration of constraints between quantiles.

Both of the two lectures were held successfully and filled with bursts of applause. They certainly were the highlights in the Celebration.

A new UGC-funded programme

Starting from September 2007, AMA will have a new programme entitled 'BSc (Hons) in Investment Science'. It is the result of a concerted effort of our Department, in response to the demand of students and the community.

Over the past few years, staff members of the Department had thought and worked hard to initiate a new undergraduate programme, which will be attractive and useful to our youngsters. We all know that Hong Kong is a national as well as international financial centre. On 15 January, 2007, in a report on Economic Summit on China's 11th Five-Year Plan and Development of HK, our Chief Executive, Mr Donald Tsang said:

"…It was against this background that the Economic Summit was called to start the studies. Under the "One Country, Two Systems" principle, the country has highlighted Hong Kong's role and the direction of our economic development in the 11th Five-Year Plan, that is to develop financial, logistics, tourism and IT industries and to preserve our status as an international financial, trade and shipping centre."

In the above report and on many other occasions, financial industries have been quoted as the cornerstone of our society. With this in mind, and based on the strength of the Department, we proposed last year to start a new two-year Articulation Programme in investment science. An Articulation Programme is one that admits Associate Degree or Higher Diploma graduates. The programme is a joint effort with the Department of Accounting and Finance (AF), with AMA teaching subjects in mathematics, statistics and investment science, while AF teaching subjects in finance and business. It is designed to produce graduates with strong mathematical and statistical skills and a thorough understanding of their applications in the world of modern investment and finance, preparing them for various careers in the investment and financial services industries. Students of this programme will have to fulfil work-integrated education (WIE) requirement through an attachment programme to the industries.

Activities Highlights

Alumni Homecoming

With an aim to maintaining a closer linkage between the Department and its alumni, a "New Year Alumni Homecoming" was organized on Saturday, 17 March 2007 at the Staff Club. Graduates from our various programmes, current students and staff as well as a few retired colleagues attended the "Homecoming".

Some information about the Department, and about the University in general, were distributed in the gathering. To prepare for the Homecoming, we sent hundreds of invitation letters to graduates in the past 10 years, based on the record kept by the University's Alumni Office. Participants of the Homecoming enjoyed the gathering, and agreed to actively publicize it if and when we organize similar activities in future.

It was generally felt that it is important to improve and update the alumni communication network if we want to involve our alumni in future activities of the Department.

Visit to Harbin Institute of Technology

Five colleagues of the Department visited the Graduate School of the Harbin Institute of Technology in April. An agreement was reached between the two parties to strengthen collaboration in research and student supervision. Possible areas of collaborations include computational mathematics, optimization, statistics and operations research.

Conferences

The Department hosted the 11th Asian Technology Conference in Mathematics (ATCM) from 12 December to 16 December 2006. The theme of the Conference was "Advancing and Fostering Mathematical Sciences and Education Through Technology".

There were a total of 136 participants, within which, 120 were non-local participants, coming mostly from Australia, Mainland China, France, Japan, South Korea, Singapore, Taiwan and USA.

The Conference was partially financed by donations from the Lee Hysan Foundation and the K.C. Wong Education Foundation. The Hong Kong Tourism Board also helped us in promoting the event.

Forthcoming Events

- The first event of the Department in the month of June is its annual Departmental Retreat. This year's retreat will be on 8th and 9th June 2007 in Zhuhai when all academic and administrative staff will put their heads together to map out the Department's strategy and challenges ahead.

- The Department is likely to provide a more open and pleasant environment after the summer. Renovation will take place between June and August 2007. During this period, all colleagues of AMA will temporarily move to the 3rd Floor of the BC wing.

- Best Teacher's Award

  Departmental Management Committee decided to present this year's Best Teacher Award for AMA to Dr. C.W. Chan. Similar to last year, a ceremony will be held at our Departmental Retreat at the beginning of June to honour Dr. Chan as well as the other four colleagues (Drs. Chan Chi Kin, Chung Kwok Chiu, Joseph Lee and Xian Zhou) who were short-listed in the first round.

  Our Department's Best Teachers' Award was first launched in 2004/05 academic year to encourage and reward good teaching. Previous award recipients were Drs. Chung Kwok Chiu, Joseph Lee, Chan Chi Kin and Choy Yee Hung.

From left to right, Choy Yee Hung, Chan Chun Wah, Chan Chi Kin, Chung Kwok Chiu and Joseph Lee.

Summer Camp 2007

The Department has, jointly with other departments of the Faculty of Applied Science and Textiles, organized summer camps for high school students over the past 4 years. This year's Summer Camp will be held from 18 July to 20 July 2007, under the theme "The Mathematical Science of Investment". Apart from talks on investment science, discussions, competitions and other team building activities, a financial information provider will introduce to the participants how to do investment trading online. The number of participants will be limited to 50, on a first-come-first-serve basis. Some of them will stay in the PolyU Students Hall of Residence for two nights. So far, response from students has been very positive. We have, at the time of writing, received more than 150 applications for the camp.

It is believed that the summer camp will allow the Department to market our programmes to our target audience. We shall also seek to strengthen our linkage with local high schools in the near future.

Distinguished Chinese Visiting Scholar

Professor Chang Kung Ching of Peking University will visit the Department in October 2007 under the University's Distinguished Chinese Visiting Scholar Scheme. Professor Chang has been Professor of Mathematics in the School of Mathematical Sciences since 1983. He was elected as a member of the Chinese Academy of Sciences in 1991 and won the Third World Award in Mathematics in 1994. Throughout his distinguished career, he has assumed various important positions such as Director of Institute of Mathematics and President of the Chinese Mathematical Society. He was also Chairman of the Local Organizing Committee of the International Congress of Mathematicians held in Beijing in 2002.

The research work of Professor Chang covers different aspects of the theory of partial differential equations and nonlinear analysis. Nonlinear analysis has developed rapidly in the last three decades. Theories, techniques and results in many different branches of mathematics have been combined in solving nonlinear problems that arise in different fields and disciplines. Professor Chang's fundamental contribution to this area consists of a unified treatment of the mini-max principle with Morse theory via homology and cohomology. This provides a unified framework so that different techniques are combined to derive existence and multiplicity results of solutions of nonlinear partial differential equations and to estimate the number of critical points for problems arising in calculus of variations, thus enabling applications to semi-linear elliptic boundary value problems, periodic solutions of Hamiltonian systems as well as geometric variational problems.

When visiting PolyU in October, Professor Chang will deliver a public lecture for the general audience and a technical seminar in a more specialized area. With his expertise in nonlinear analysis, Professor Chang's visit would certainly benefit colleagues working in nonlinear problems in science and engineering. Furthermore, we believe that the link between the PolyU and Peking University will also be further strengthened.

1. Cedric Yiu, one of our HD graduates in the mid 80's, was appointed Assistant Professor on 1 September 2006. Cedric was a Research Assistant Professor at HKU before joining the Department.
2. Karen Tam was appointed Temporary Lecturer in January 2007. She got her BSc from our Department in the 90's, and has recently finished her PhD in the Department of Civil & Structural Engineering.
3. Samuel Hau, Jodie Lee, W.K. Mak and Nora Man joined the Department as Tutors in August 2006.
4. Fion Chan, Katie Cheung and Roger Lee were appointed Executive Assistant, Assistant Officer and Assistant Technical Officer respectively.
5. K.C. Chung and Patrick Kwan retired from the Department after 30 years of dedicated service. A party was organized at the PolyU Staff Club for us to bid them farewell. It was attended by well over 50 colleagues.
6. Roger Lee resigned in February 2007.

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