

AMAGAZINE

Issue no. **08**

AMA newsletter

Winter 2012

HOT NEWS TOP 75 MATHEMATICS DEPARTMENT BY ARWU IN 2012 (P.2)

P1

Highlights

P2

Achievement

P2-5

Events & Activities

P6-7

Students

P8-9

Interview

P10-12

Staff



For further information about AMAGazine, please e-mail us at maopview@polyu.edu.hk



AMA FAMILY GROWS BIGGER AND STRONGER

In 2012, the 3-3-4 new education system brings new challenges and responsibilities to the University and Department. To cope with this important reform, the Department of Applied Mathematics has significantly expanded its team with the appointment of a total of 21 new academic and administrative staff making up a stronger team of 56 faculty members and 16 supporting staff.

Back in 1972, the Department of Mathematics & Science was one of the eight academic departments in the Hong Kong Polytechnic. It was subsequently renamed Department of Mathematical Studies in 1976 and then Department of Applied Mathematics in 1990. Through the decades, the Department has made great progress, gained a well-earned reputation and excelled in achievements, which have resulted in its current ranking in the world.

We believe that our new colleagues, who have come from different backgrounds, will bring in fresh energy and dynamics that will further strengthen the interdisciplinary and collaborative work in our teaching and research. With a strong and progressive team, the Department of Applied Mathematics will be well prepared for more challenges in the years ahead.



AMA REACHES A NEW HEIGHT OF ACHIEVEMENT!

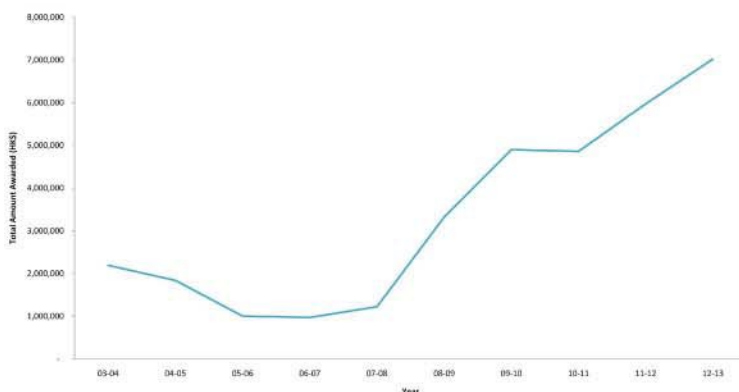
In 2012, AMA made great strides not only in strengthening its own team structure, but also in gaining a new ranking in the world and in securing additional research funding.

After being listed in the top 100 for three consecutive years by The Academic Ranking of World Universities (ARWU)*, AMA has now climbed to become one of the top 75 Mathematics Departments this year. In addition, the Department also ranks in the top 100 by The QS World University Ranking Agency** in 2012.

In research, the Department has won record highs in research funding from the RGC General Research Fund /Early Career Scheme in 2012/13. AMA has also received its first research support (approx. \$2M) from the Innovation and Technology Commission (ITC). These are very encouraging results which will lay a solid foundation for successful research.

We are very proud to gain our new improved ranking in the world as well as our increased funding support. It is worth all the efforts of our colleagues and shows that our strategies are paying off. We will continue to strive for further improvement.

Total Amount of Research Funding that AMA Awarded in 2003/14 - 2012/13 (HK\$)



* Academic Ranking of World Universities
<http://www.shanghairanking.com>

** QS World University Ranking Agency
<http://www.topuniversities.com/university-ranking/world-university-rankings>

UGC 大學教育資助委員會
University Grants Committee

EVENTS & ACTIVITIES

2ND WORKSHOP ON COMPUTATIONAL MATHEMATICS (25-26 MAY 2012)

The second Workshop on Computational Mathematics was held in AMA on May 25-26, 2012. This workshop was supported by the AMSS-PolyU Joint Research Institute, the Hong Kong Mathematical Society and the Department of Applied Mathematics, PolyU. It brought together mathematicians working in computational mathematics and related fields to review recent scientific developments and explore exciting new directions in computational mathematics and its interaction with other fields. More than 40 participants including scholars from Australia, China, India, Korea, USA as well as colleagues from local institutions joined this workshop.



DISTINGUISHED LECTURE BY PROFESSOR NICK TREFETHEN (29 MAY 2012)

Professor Nick Trefethen, Professor of Numerical Analysis and Head of the Numerical Analysis Group at Oxford University, delivered a distinguished lecture on 29 May 2012. During the lecture, Professor Trefethen introduced a remarkably powerful tool, Chebfun, which is an open-source software system in MATLAB for numerical computation involving numbers to continuous or piecewise-continuous functions. He also demonstrated how to apply Chebfun to solve differential equations and eigenvalue problems.



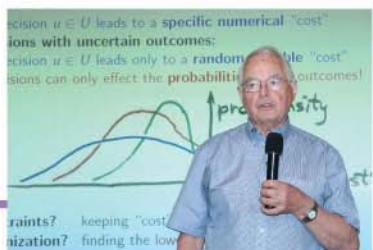
WORKSHOP ON PDE PROBLEMS IN MATHEMATICAL BIOLOGY AND PHYSICS (22-23 JUN 2012)

This two-day workshop brought together mathematicians working in the frontier of Mathematical Biology and Physics. The aim of the workshop was to share the latest developments in Partial Differential Equations (PDEs) in Mathematical Biology and Physics, and to develop more collaborations. Participants included colleagues from local institutions as well as scholars from Canada, China and the USA.



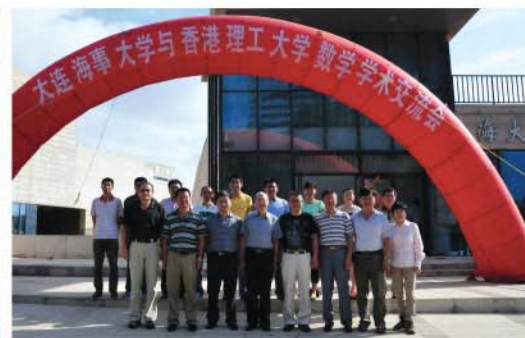
2ND WORKSHOP ON OPTIMIZATION AND RISK MANAGEMENT (4-5 OCTOBER 2012)

The AMSS-PolyU Joint Research Institute organized the 2nd Workshop on Optimization and Risk Management in October 2012. This two-day workshop started with a keynote lecture by Professor Tyrrell Rockafellar from University of Washington, followed by seven invited talks.



VISIT OF DALIAN MARITIME UNIVERSITY (27 AUG – 1 SEP 2012)

In late August, ten AMA faculty members were invited to visit Dalian Maritime University for academic exchanges. During the 5-day visit, a series of academic seminars were held by both our faculty members and the hosts on latest research ideas and funding opportunities. In addition, various issues including reform of the Hong Kong education system and collaboration opportunities between two parties were discussed. Also, our academic programs were introduced to students from Dalian Maritime University.



POLYU CONSULTATION DAY FOR JUPAS APPLICANTS (11 MAY 2012)



This year's Consultation Day was held on 11 May 2012. Through consultation sessions, exhibition and video shows, JUPAS applicants gained a better understanding of our Investment Science programme before they made their final decisions on the priority of their JUPAS programme choices.

EVENTS & ACTIVITIES



SUMMER WORKSHOP (25-26 JULY 2012)

This annual event was held on 25 – 26 July 2012 with this year's theme being "Fantastic Statistics". Seventy secondary school students at F.4 or above attended the 2-day workshop to explore the multi-facets of mathematics and statistics. Participants gained a better understanding of the University, the Department and academic programmes offered by the Department. In addition, they enjoyed a series of themed lectures, workshops, games conducted by our colleagues and got a taste of the university undergraduate life.

POLYU INFO DAY 2012 (6 OCTOBER 2012)

PolyU Education Information Day is the most important annual promotional activity of the University to reach out to the pool of prospective students seeking JUPAS admission. This year, the event was held on 6 October. Over 50 staff and 30 students participated and helped to promote the Department and our undergraduate programme to secondary school students and their parents.

Three information seminars were held and attracted more than 500 participants, in which the programme design, admission requirements, and career prospects were delivered to the audience. In addition, two alumni were invited to share their university life and career development in the seminars. The event recorded more than 40,000 visitors to PolyU and received huge responses.



AMA'S GOT TALENT (SEPTEMBER 2012)

In September, a group of AMA staff and students made their acting debut in the first AMA video! Thanks to their tremendous support, the video was premiered at this year's PolyU Info Day. We would like to give tribute to those who helped make this video a great success.

AMA staff

Professor Li-qun Qi
Professor Xiao-jun Chen
Dr. Chi-kin Chan

Dr. Kaibin Huang
Dr. Catherine Liu
Dr. Raymond Sze

Dr. Stanley Yip
Dr. Yuan-yuan Lin
Mr. Kent Liu

Miss Nora Man
Miss Anita Au

Alumni and students

Jasmine Cheung
Ming-jie Gao

Shelia Hui
Jeff Hui

Kavis Shek
Elvis Wong

Ryan Yu



To view their superb acting skills, please visit our website <http://www.polyu.edu.hk/ama/introduction.php>



DEPARTMENTAL RETREAT 2012 (10 – 11 MAY 2012)

The Department retreated to Hotel Sofitel Macau At Ponte 16, Macau this year. After a report session for an overview of the departmental issues, AMA colleagues were divided into four subgroups for discussion with their focus on several key issues of the department, including implementation of the 4-year undergraduate curriculum, teaching quality and communication with students, research strategies and expectations, and administration, management and environment enhancement. In addition to the formal meetings, colleagues also took the opportunity to get to know each other by joining a series of leisure sight-seeing activities during the retreat.

CHRISTMAS PARTY 2012 (24 DECEMBER 2012)

On 24 December 2012, AMA colleagues gathered to celebrate the Christmas season at Regal Kowloon Hotel. Research personnel, retired colleagues and our faculty Dean were invited to join the party as well. Special thanks go out to Fanny and her General Office colleagues for making the party such an entertaining and successful gathering. Everyone enjoyed the delicious cuisine, the fun games and the lucky draw with fabulous prizes.



STUDENTS

1. SCHOLARSHIPS FOR 2011 / 2012

Scholarship	Recipients	
Bachelor of Science (Honours) in Investment Science		
Dr. Christophe Ping-cheng Yuen Memorial Mathematics Prize	LEUNG Chi Kong WONG Siu Fung	LEE Wai Tsz
HKCC Scholarship	CHEUNG Chi Hang SO Chun Yin	YAM So Ming SIN Ka Yin
Education Scholarships Fund - Murjani Scholarship	LI Suet Ying	
Ranjan Dey Award	LEUNG Wun lu	
Li & Fung Scholarship 2011/12 (for student exchange programme in 2011/12)	WONG Ka Yi	
Department of Applied Mathematics Scholarship for Hall Residents	LO Ho Yu	TAN Kok Beng
MSc/PgD in Applied Mathematics for Science and Technology		
Kowloon Investment Scholarship 2011/12	CAI Zhihui KONG Pak Yee Lance LI Qi LU Zhiwei	SHUM Ka Hung SUN Xuting TUNG Wai Hoi

2. THE FIRST GATHERING OF THE ACADEMIC ADVISORS/STUDENT ADVISEES (14 SEPTEMBER 2012)

Starting from the 2012/13 academic year, every PolyU freshman would be assigned to an academic advisor from his/her own Department. Under the new Academic Advising System, academic advisors will keep contact with his/her student advisees regularly, and meet up for consultation. These academic advisors act as a bridge between students and the department. More specifically, academic advisors help the students make informed and intelligent academic decisions/choices about their study which best suits their professional and personal goals.

On September 14, 2012, over 80 AMA students and staff got together to meet and interact with their advisors/advisees. The gathering began with a welcoming speech by Dr. Joseph Lee, Programme Leader of BSc in Investment Science, followed by advisors/advisees grouping and a tea reception.



3. FRESHMAN SEMINARS

- a. Dr. Timothy Yip, Adjunct Professor of AMA, "Application of Mathematics in the Investment Industry" (26 September 2012)



- b. Mr. Dominic Leung, Former Deputy Commissioner of the Census and Statistics Department, "Application of Statistics in Daily Life" (7 November 2012)



4. THE 18TH CONGREGATION (3 NOVEMBER 2012)

Over 160 AMA graduates from undergraduate to doctorate levels were conferred their respective degrees at the 18th Congregation of the University. This year, there were 4 PhD graduates from our Department. We would like to extend to all graduates our warmest congratulations, and we wish them every success in their future careers or studies.

5. BEYOND THE CLASSROOM ACTIVITIES

Tea gathering with Mentors (3 March 2012)

Over 40 participants including students, mentors and staff gathered at this annual function at PolyU Staff Club on 3 March 2012. One of our mentors, Mr. Quincy Wong, Chairman of Convoy Financial Group, shared his experience on career prospects with students.



Learning experience tours to Wuhan (28 April -22 May 2012) and Sydney (29 May – 2 June 2012)

Two groups of Investment Science students toured to Wuhan and Sydney during the summer break. They visited a few institutions including Zhongnan University of Economics and Law in Wuhan, the University of New South Wales and the University of Technology in Sydney.



Bloomberg Training (11 February 2012)

In February, over 40 Investment Science students attended an exclusive Bloomberg Training Session organized by Bloomberg Hong Kong. During the 2-hour session, students learnt how to use Bloomberg Terminal, which is one of the most renowned and sophisticated financial information platforms widely used in the market.



Career Talk by the Society of Actuaries (9 July 2012)

Mr. Ken Tang, FSA, Manager and Actuary, Regional Office of HSBC Insurance and Dr. W.L.Yung, Programs Manager of the Society of Actuaries, were invited to deliver a career talk to our AMA students. The guest speakers introduced career opportunities and emerging trends in the actuarial industry; shared their insights in the actuarial profession and gave valuable career advice to our students.



Sharing Session with the Deputy Commission of the Census and Statistics Department (13 February 2012)

The Department invited Mr. Leslie Tang, Deputy Commissioner of the Census and Statistics Department, to give a sharing session to our students. Mr. Tang introduced graduate employment opportunities in the C&S Department and shared his valuable advice for job interviews.



INTERVIEW

STUDENT-ATHLETES BALANCE LIFE ON AND OFF THE FIELD

Congratulations to our first year student of BSc (Hons) in Investment Science, Miss LEE Ka Yi, who was champion (girls under 19) of the Prince HK Junior Squash Championships in 2012. She also represented Hong Kong in squash tournaments in Shanghai and Macau in October 2012. As an athlete, how does Ka Yi manage to balance between her study, sport and personal life? Let's ask her and find out more about this student-athlete.

A: **AMA** Y: **Miss Lee Ka Yi**

A: When did you start playing squash and have formal training?

Y: I have played squash for 10 years. When I was 9 and studied in primary school, I first played squash due to my friend's invitation. Since then, I'm into this sport and started formal training through the Community Sports Club (CSC) Project of Hong Kong Squash. I began participating in various local and overseas competitions when I was a Form 3 student and started training at Hong Kong Sports Institute until now.

A: Please share your most memorable competition you have ever participated in.

Y: In July 2011, I joined the 2011 Women's World Junior Squash Championships held in USA and won the 2nd place (classic plate) and 3rd place with teammates (team). It was very memorable not only because of the results but also the strong team spirit and support from teammates during the 2-week competition.



MISS LEE KA YI



A: Being a student athlete, what are the opportunities, challenges and trade-offs for you?

Y: By participating in various competitions around the world, I gain lots of chances for travelling to metropolitans like Boston and Shanghai and developing country such as Iran. I also met many friends from all over the world and learned different cultures from them. Besides, it provides me an excellent opportunity for personal growth as well as building up a strong bond with my teammates.

In return, I probably have less of social life and leisure time than my peers because I focus on squash training as well as school work, that sometimes exhausted me.

A: So how do you manage your time and keep a balance between study, sport and personal life? Is there anything you have learnt in sport that could help?

Y: Indeed I am used to having a tight schedule. I spend most of my time on training and studying with less rest and leisure. Luckily, I have support from my family and classmates who help me a lot on catching up the class work. And I always plan ahead for a more manageable schedule.

Concentration is very important in both sport and study especially when you have limited time. It makes me much more efficient so that I could get things done quicker.

A: The last but not the least question. Why did you choose the Investment Science programme?

Y: I'm strongly interested in Mathematics and found that the demand for employee with statistical and quantitative analysis skills is growing. This program is just a perfect way to pursue my interests whilst leading on to a successful career.



DR. CHAN CHI KIN RECEIVED THE FACULTY AWARD FOR EXCELLENT PERFORMANCE/ACHIEVEMENT IN TEACHING 2011/2012

Further to the recognition as the 'Departmental Best Teacher Award' this summer, Dr. Chan Chi-kin, Associate Head and Associate Professor of AMA, was honoured for his outstanding performance and achievements in Teaching in a ceremony held on 14 December 2012 at the Jockey Club Auditorium. Working in PolyU for over 25 years, Dr. Chan shared the thoughts of staying enthusiastic and motivated in excellent teaching.

A: AMA C: Dr. Chan Chi-kin

A: What is your impression of PolyU students?

C: PolyU students are energetic and resourceful. With their assertiveness and training they undergo in the University, surely they can display and exercise their capability in their profession and in turn contribute to the well-being of the society.

A: As a teacher with more than 25 years of teaching experience, do you think today's PolyU students are different from those in the past (the time when you first joined PolyU)?

C: The students nowadays have more support from their families, the society and the University. They have more chances to develop their own interests and explore their potential.

A: How can you keep your enthusiasm and passion for teaching? You have been awarded "Faculty Award for Excellent Performance/Achievement in Teaching" and "Departmental Best Teacher Award". As a recognized and experienced teacher, can you share your teaching philosophy with us?

C: Students are the direct recipients of teaching. How far and how students can get hold of a particular knowledge primarily depends on how effective the knowledge is conveyed, that is what I think teaching is. I always try to deliver teaching effectively to students so that they could learn most and benefit the most. Develop students' interest in learning is also one of my objectives that I always want to achieve.

A: As an Associate Head of AMA, you have a heavy workload not only on teaching but also administrative duties. How can you keep a balance between the two?

C: Teamwork counts most. Without a team, things cannot be done smoothly, and solutions to hiccups and problems always need brain storming sessions.

A: Is there anything else you would like to share with us?

C: I wish everybody a Prosperous and Happy New Year!



ASSOCIATE HEAD AND ASSOCIATE PROFESSOR DR. CHAN CHI KIN

DEPARTMENTAL BEST TEACHER/ PAPER AWARD 2011/2012

- Best Teacher Award Recipient: Dr. Chi-kin Chan
- Best Paper Award Recipients: Prof. Cheong-ki Chan, Dr. Daihai He and Dr. Cedric Yiu



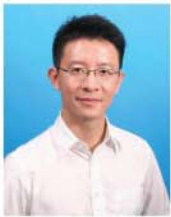
STAFF MOVEMENT

- New staff appointments

The Department is pleased to welcome the following academic and supporting staff joining us between March and November 2012.

ACADEMIC STAFF (IN ALPHABETIC ORDER)

Assistant Professors



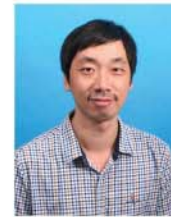
Dr. Huang Kaibin

- Ph.D., The University of Texas at Austin, 2008
- Research interests include applications of stochastic geometry to analysis and designs of wireless networks, energy harvesting in wireless networks, MIMO limited feedback techniques, wireless power transfer and cross-layer optimization for wireless networks
- Joined AMA in July 2012



Dr. Lou Yijun

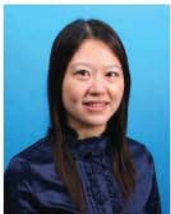
- Ph.D., Memorial University of Newfoundland, 2010
- Research interests include applied dynamical systems, differential equations, mathematical epidemiology and mathematical biology
- Joined AMA in August 2012



Dr. Yuan Haidong

- Ph.D., Harvard University, 2006
- Research interests include dynamical system and control theory, information, optimization, signals and systems, modeling and control of system at micro, nano and mesoscopic scale, quantum information and quantum computing and complex system and networks
- Joined AMA in August 2012

Research Assistant Professors



Dr. Lin Yuanyuan

- Ph.D., The Hong Kong University of Science and Technology, 2011
- Research interests include semiparametric analysis and survival data analysis
- Joined AMA in July 2012



Dr. Ye Zhisheng

- Ph.D., National University of Singapore, 2012
- Research interests include industrial statistics, reliability modeling and degradation analysis of highly reliable systems
- Joined AMA in October 2012



Teaching Fellows



Dr. Lee Yu Chung, Eugene

- Ph.D., The Hong Kong Polytechnic University, 2007
- Research interests include supply chain management, optimization and computational optimal control
- Joined AMA in September 2012



Dr. Ting Fridolin Sze Thou

- Ph.D., University of Toronto, 2003
- Research interest is in the area of the mathematical theory of Ginzburg-Landau equations
- Joined AMA in September 2012



Dr. Wong Man Lam, Benedict

- Ph.D., The University of Louisiana at Lafayette, 1990
- Research interest is in the area of partial differential equations
- Joined AMA in August 2012

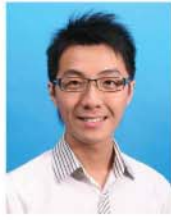


Instructors



Mr. Cheung Yat Ming, Andy

- M.Phil., The Chinese University of Hong Kong, 2010
- Research interest is in area of partial differential equations
- Joined AMA in August 2012



Dr. Lee Kei Fung, Charles

- Ph.D., City University of Hong Kong, 2012
- Research interests include asymptotic analysis, orthogonal polynomials and special functions
- Joined AMA in August 2012



Dr. Leung Chun Sing

- Ph.D., University of Chinese Academy of Sciences, 2011
- Research interests include astrophysics, radio astronomy and cosmology
- Joined AMA in August 2012



Mr. Leung Man Kin, Adam

- M.Phil., The Hong Kong University of Science and Technology, 2010
- Research interests include computational fluid dynamics and mathematical physics
- Joined AMA in August 2012



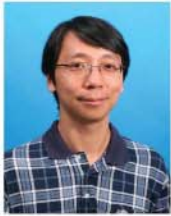
Dr. Leung Shun Him, Louis

- Ph.D., University of Toronto, 2010
- Research interest is Knot theory
- Joined AMA in August 2012



Mr. Sum Sung Fung, Sam

- BSc, the Hong Kong University of Science and Technology, 2007
- Research interests include astrophysics and space science, solar, planetary and lunar research, and computational fluid dynamics
- Joined AMA in August 2012



Dr. Zhang Hua

- Ph.D., Northwestern University, 2006
- Research interest is in the area of dynamical systems
- Joined AMA in September 2012

SUPPORTING STAFF

Left: Miss Meijei Wong, Administrative Assistant

Right: Miss Sylvia Chuang, Assistant Officer



PROMOTION

Congratulations to the following colleagues who have been promoted recently:

- Dr. Wong Heung has been promoted to Professor in April 2012
- Miss Nora Man, Dr. Allen Tai and Mr. Solomon Wong have been promoted to Instructors in May 2012 while Mr. Kent Liu got promoted to the same position in August 2012

REAPPOINTMENT

After retirement, five of our retired teaching staff have been re-appointed as Teaching Fellows in 2012 to continue their passion of teaching. They are :

Dr. Chan Chun-wah
Dr. Chung Kwok-chiu

Mr. Kwan Ying Keung
Mr. Kwan Ying Kit, Patrick

Dr. Pong Tak-yun, Glory

DEPARTURE

The following colleagues have left our Department. We would like to extend our gratitude to all of them for their dedicated service and wish them all the best in their future endeavors.

Dr. Francis Austin

Dr. Sim Chee-khian

Dr. Tsang Fai Lung, Tomas

JUST MARRIED

On Sunday 21 October 2012, Charles married his fiancée Gigi. A ceremony was held at Immanuel Baptist Church and they had enjoyed their special day with family, colleagues and friends. We wish the couple a very happy new life ahead.



GOAL, GOAL, GOAL!

Recently, 10 of our colleagues teamed up to participate in the President's Cup 5-a-side Inter-departmental Staff Soccer Competition. They are Cedric, Frankie, Ka Wing, Nora, Raymond, Sam, Stanley, Thomas, Zhonghua and Zouqun. The first game was held on December 15 (Sat) and six team members played and every one of them showed their passion to play at their best. In addition, Frankie and Ka Wing formed another team with Dick, Louis, Kent and George (from HTI) to battle in the Basketball Competition. We look forward to seeing both teams in the final.

UPCOMING EVENTS

Distinguished Lecture by Professor E. Weinan on 20 March 2013

Distinguished Lecture by Professor Tze-leung Lai on 19 April 2013

EDITORIAL BOARD

Prof. Cheong-ki Chan
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Prof. Yanping Lin
Dr. Raymond Sze
Dr. Fridolin Ting

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