E-News for Math Students & Alumni
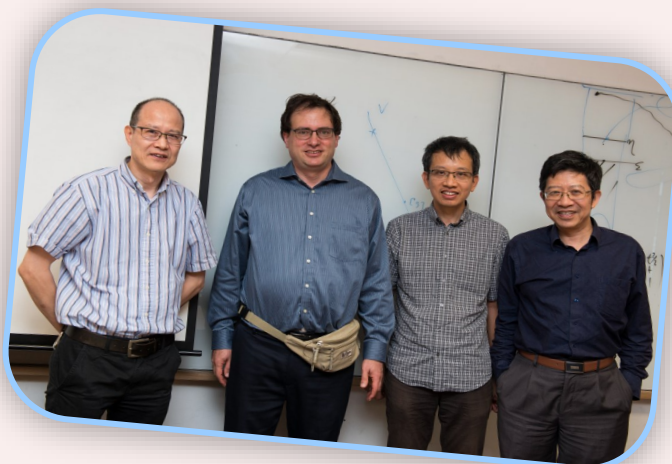## ~ *Staying in touch with You* ~

Oppenheim Lecture 2017

The Oppenheim Lectures is a distinguished lecture series jointly organised by the Department of Mathematics, and the Institute for Mathematical Sciences (IMS) at NUS. It was started in 2015, in honour of Sir Alexander Oppenheim, who held the position of Professor and first Head of the Department from 1931, at the time of Raffles College, until 1959.

The speaker for the 3rd Oppenheim Lecture was Professor Elon Lindenstrauss, Professor of Mathematics at the Hebrew University, who delivered a lecture on "On an effective proof of the Oppenheim Conjecture (joint work with G. A. Margulis)" on 15 February 2017. Professor Lindenstrauss is well known for his work in the area of ergodic theory and their applications to number theory. In recognition of his achievements, he was awarded the Fields Medal in Mathematics in 2010.

From Left: Prof Zhang De-Qi, Prof Elon Lindenstrauss, Prof Dinh Tien Cuong and Prof Zhu Chengbo

In conjunction with the Oppenheim Lecture, a Workshop on Ergodic Theory & Dynamical Systems was held from 14 to 16 February, with speakers from NUS and leading institutions in the Asia-Pacific region including the Tata Institute of Fundamental Research, Peking University and Seoul National University.

Prof Lindenstrauss also shared his insights with students interested in mathematics and mathematical research at a special dialogue session on 16 February.

Data Science & Analytics Day

How does Grab assign you your driver in the shortest possible time? Are driverless cars safe?

To address these questions and how Mathematics and Statistics come into play in the realm of data science, the Department of Mathematics held a Data Science and Analytics themed-event on 15 March 2017.

Prof Zhu Chengbo, Head of Department, welcomed the audience and shared more on our programme in Data Science and Analytics. This is a four-year direct Honours programme, designed with sufficient technical depth to equip graduates with the ability to develop novel analytical tools for new scientific applications and industry problems that will emerge in future.   (The programme is offered by the Departments of Mathematics and Statistics & Applied Probability in the Faculty of Science, in conjunction with the School of Computing.)

Targeted at pre-university students and the general public, the Department hoped to share more about data science and its applications in our daily lives.   The event was attended by more than 150 participants.

Sharing their expertise at this event were

Mr Tay Yu Xuan (Data Scientist, GovTech, alumnus of Department of Statistics & Applied Probability), provided a peek into what Data Science is, his work in this field, and career prospects.

Associate Professor Ji Hui from the Department of Mathematics intrigued the audience with his presentation on driverless cars, and how Mathematics is a driving force behind the advance of visual navigation technologies critical for safe driving. He also shared several mathematical ideas and computational algorithms that contribute to building state of-the-art visual navigation systems.

Dr Yang Liuqin (Data Scientist, Grab; alumnus of Department of Mathematics), delved into mathematical problems faced by Grab and how their data science team solves them, using two main mathematical models: optimization model and prediction model.

I have learnt how data science is applicable for different activities. Especially for GrabTaxi, I get to know how data science is being used to navigate the Drivers to the best suited passengers according to the distance, and this can only be done with data science. As we progress to become even more advanced in technology, data science is definitely crucial. The programme is useful as it was really insightful as we get to know how mathematics is very applicable in our daily lives like how matrix is being used in driverless cars. Hence, I feel that mathematics play a huge role in making Grab and driverless cars possible.

Student, Meridian Junior College

International Congress of Mathematicians 2018

Our warmest congratulations to Professor Dinh Tien Cuong on being selected as a sectional speaker for "Analysis and Operator Algebras" at the International Congress of Mathematicians (ICM) 2018 to be held in Rio de Janeiro, Brazil.

The International Congress of Mathematicians (ICM) is the largest international congress in the mathematics community. Its long and illustrious history stretches over more than a century. It is held once every four years under the auspices of the International Mathematical Union (IMU). Four of the top prizes in mathematics: the Fields Medals, the Nevanlinna Prize, the Gauss Prize and the Chern Medal, are awarded during the opening ceremony on the first day of the congress. With thousands of participants and the announcements of the prestigious prizes, every ICM is the focus of the mathematical world and a highlight on the mathematical calendar.

The selection process for invited speakers to ICM is extremely rigorous. Nominations received worldwide are channeled to selection committees for individual sub-disciplines comprising of preeminent experts in the whole world. In each sub-discipline, only a handful of mathematicians are invited to give 45-minute presentations. To be an ICM invited speaker is to be recognised by one's peers to be among the top experts in the sub-discipline in the whole world. It is a singular honour that is widely acclaimed by the mathematical community as a mark of excellence.

Prof Dinh is the 6th staff member in the past 10 years to be invited to ICM. In the department's history, Professor Shen Zuowei, (currently Dean of the Faculty of Science) was the first mathematician to be given this recognition when he was invited to present a 45-minute lecture at the previous ICM in 2010. In 2014, four of our professors (Professors Bao Weizhu, Gan Wee Teck, Shen Weixiao and Yu Shih-Hsien) were invited to give a 45-minute lecture at ICM 2014 in Seoul, South Korea.

Congratulations!

From Left:

Dr Wang Fei on his promotion to Senior Lecturer; Dr Zhang Louxin and Dr Ren Weiqing on their promotion to Professor , with effect from January 2017

Staff & Student Accolades

Mr Zhao Quan (PhD student, 2013 cohort) and Mr Ang Yan Sheng (undergraduate student, 2015 cohort) have been selected to participate in the 5th Heidelberg Laureate Forum, to be held from September 23 to 29, 2017 in Heidelberg, Germany. About 200 highly talented young researchers will participate in the forum.

Prof Victor Tan was awarded the Annual Teaching Excellence Award (ATEA) for AY2015/2016. The award is given by the University to recognize faculty members who have demonstrated a very high level of commitment to, and achievement of, good teaching.

Prof Shen Zuowei has been elected as a Fellow of the American Mathematical Society, for contributions to approximation theory, wavelet theory, and image processing.
The Fellows of the American Mathematical Society program recognizes members who have made outstanding contributions to the creation, exposition, advancement, communication, and utilization of mathematics.

Prof Chew Tuan Seng

Prof Chew retires from the Department of Mathematics on 30 June 2017 after a fulfilling career spanning 35 years.

We thank Prof Chew for his invaluable contributions to the Department and Faculty, and wish him a fun-filled and relaxing retirement.

Prof Chew was an alumnus of Nanyang University (BSc Hons 1970 and MSc 1973) and thereafter, he held a short stint as Graduate Assistant at Nanyang University.

He pursued his interest in Mathematics and continued his graduate study at National University of Singapore. In 1982, he joined the Department of Mathematics, NUS as Senior Tutor and was appointed as Lecturer after completing his PhD studies in 1986. He was promoted to Associate Professor in 1998.

Prof Chew was a dedicated teacher and had immense rapport with his students.

In recognition of his dedication and teaching achievements, Prof Chew received numerous university and faculty teaching awards. His research focused primarily on Henstock integrals, and then later in Feynman integrals and stochastic integrals.

Prof Chew was an active member of the Singapore Mathematical Society, having held appointments as Assistant Treasurer (2016 - 2017, 2011, 2010) and Honorary Treasurer (2012 to 2015).

He also held appointments as Council Member of the Singapore National Academy of Science (1991-92) and Vice-President of the Southeast Asian Mathematical Society(1996-97).

Thank You!

Mdm Tay Lee Lang

Mdm Tay retires from the Department of Mathematics on 31 May 2017 after a fulfilling career spanning 42 years.

Mdm Tay joined the Department administrative team in April 1975 and managed various portfolios , focusing mainly on honours project and examination matters.

Mdm Tay was a committed colleague who had great rapport with staff and students.

We thank Mdm Tay for her invaluable contributions to the Department and Faculty, and wish her a fun-filled and relaxing retirement.