

Singapore Mathematical Society Annual Report 2018

1. Membership

Membership in the various categories at the end of 2018 is shown below.

Membership	2018 figures	2017 figures
Honorary	9	9
Life	98	99
Ordinary	40	44
Institution	59	55
Junior	21	20
TOTAL	227	227

2. Officials

The officials of the Society for 2018 were:

President : A/P Victor Tan
 Vice-Presidents : A/P Chan Song Heng
 Prof Gan Wee Teck
 Dr Hang Kim Hoo
 Hon Secretary : Dr Tang Wee Kee
 Hon Treasurer : Mr Wang Haibin
 Editor : A/P Toh Tin Lam
 Asst Secretary : Dr Wang Fei
 Asst. Treasurer: Dr Soon Wan Mei

Asst Editors : Dr Gwee Hwee Ngee
 A/P Yap Von Bing
 Committee Members : Dr Chen Weiqiang
 Mrs Tan-Foo Kum Fong
 Dr Toh Pee Choon
 Dr Wong Wei Pin

3. Activities

a. Publications

The Society published two issues (Volume 44, Numbers 1, 2) of the Mathematical Medley, and the SMO 2018 solution book (edited by Dr Ku Cheng Yeaw, A/P Tay Tiong Seng, Dr Toh Pee Choon and A/P Toh Tin Lam).

b. Lectures

SMS Lecture Series “You don’t have to buy Bitcoin. You can mine it. - How to mine cryptocurrencies by solving complex mathematical puzzles” by Dr Kiah Han Mao (NTU) was held on March 9 2018 at LT31, NUS.

SMS Public Lecture “From Abel to Langlands: the quest for a general reciprocity law and a grand unified theory of mathematics” by Professor Gan Wee Teck was held on 24 May 2018 at NUS LT31.

c. Workshops

An SMS workshop for teachers “Student Preparation for Mathematical Olympiads” by Dr Hang Kim Hoo and Mr. Wang Haibin was held on 11 September 2018 at NUS S17 SR1.

d. Singapore Mathematical Olympiad

- The Society conducted the Singapore Mathematical Olympiad (Junior, Senior and Open Sections) in June 2018. A total of 8010 students from 120 secondary schools and junior colleges participated in the various sections of the Olympiad.

- For Junior Section, there were 3786 participants from 98 schools. For Senior Section, there were 2328 participants from 90 schools. For Open Section, there were 1914 participants from 68 schools. In addition, there were 203 participants from Indonesia and Vietnam.
- In collaboration with the Vietnamese Mathematical Society, the Society conducted the Junior and Senior sessions of SMO in Hanoi. Dr. Ku Cheng Yeaw and Dr. Le Hai Khoi were sent to invigilate the competition. A total of 165 students from different parts of Vietnam took part in the competition.
- The SMO Subcommittee 2018 consisted of
 - Dr Ku Cheng Yeaw (Chairman/Senior Section Coordinator)
 - Dr Hang Kim Hoo (Deputy Chairman/Administration)
 - Dr Toh Pee Choon (Junior Section Coordinator)
 - Associate Professor Toh Tin Lam (Open Section Coordinator)
 - Associate Professor Tay Tiong Seng (Second Round Coordinator)
- The following were contributors of competition problems:
Tay Tiong Seng, Wong Yan Loi, Toh Tin Lam, Dong Fengming, Ku Cheng Yeaw, Ngan Ngiap Teng, Toh Pee Choon, Ho Foo Him

e. International Mathematical Olympiad

- The 59th International Mathematical Olympiad (IMO) was held in Cluj-Napoca, Romania from 3 to 14 July 2018. A total of 594 contestants from 107 countries or regions participated in this IMO.
- The Singapore National Team to the 59th International Mathematical Olympiad consisted of the following members:

Team Leader:	Wong Yan Loi (National University of Singapore)
Deputy Team Leader:	Teo Teck Kian, Thomas (Raffles Institution)
Contestants:	Tan Junyao Joel (NUS High)
	Ng Yu Peng (Hwa Chong Institution)
	Shi Cheng (Hwa Chong Institution)
	Boo Tse Yang, Lucas (Raffles Institution)
	Cheng Puhua (Raffles Institution)
	Lee Ker Yang (Raffles Institution)
Observers:	Tay Tiong Seng (formerly National University of Singapore)
	Zong Lixing (Hwa Chong Institution)
	Tan Siah Yong (Observer sponsored by MOE)
	Lin Kewei, David (Observer sponsored by SMS)
	Lee Hua Jun, Eugene
- Ng Yu Peng and Lee Ker Yang received gold medals. Tan Junyao Joel, Boo Tse Yang Lucas and Cheng Puhua received silver medal, Shi Cheng received honourable mention. The team attained a total score of 175.
- The Singapore team was ranked 8th among 107 countries.
- The Singapore International Mathematical Olympiad Committee 2018 consists of the following members and trainers:
Wong Yan Loi (Chairman), Tay Tiong Seng, Barry Chia (MOE), Chua Seng Kee, Chua Seng Kiat, Denny Leung, Tay Yong Chiang, Jeffrey Pang Chin How, Wang Fei, Lu Shang-Yi, Thomas Teo Teck Kian, Wang Haibin, Zong Lixing, Ai Xinghuan, Ngan Ngiap Teng, Wu Jiawei.

f. China Western Mathematical Invitation

- The China Western Mathematical Invitation 2018 was held in Haikou City, Hainan Province, China, from 13 to 18 August 2018.
- The Singapore National Team consisted of:

Team Leaders: Mr Chen Zenghui and Mr Dennis Yeo;
Contestants: Ang Boon Han, Nathaniel (Anglo-Chinese School (Independent))
Ho Li Xiong, Timothy (NUS High)
Low Choo Ray (Raffles Institution)
Ng Yangyi, Aloysius (Raffles Institution)
Shen Xinyi (Raffles Institution)
Sung Longxuan (Hwa Chong Institution)
Tan Wee Kean (Raffles Institution)
Loh Yan Xun, Timothy (Hwa Chong Institution)

- Results:
Gold – Ang Boon Han, Nathaniel, Ho Li Xiong, Timothy, Low Choo Ray, Ng Yangyi, Aloysius, Shen Xinyi, Sung Longxuan, Tan Wee Kean
Silver – Loh Yan Xun, Timothy

g. China Mathematical Olympiad

- The 34th China Mathematical Olympiad was held in Chengdu Sichuan Province, China from 12 to 16 November 2018. 6 students were selected to represent Singapore and accompanied by 3 teachers as team leaders.
- The Singapore National Team consisted of:
Team Leaders: Mr Chen Zenghui (Hwa Chong Institution), Mr Lu Shangyi (Raffles Institution) and Mr Lim Teck Choon (NUS High School).
- Contestants: Boo Tse Yang Lucas (Raffles Institution)
Tan Xu Chen (Raffles Institution)
Cheng Puhua (Raffles Institution)
Shi Cheng (Hwa Chong Institution)
Yang Yue (Hwa Chong Institution)
Zhang Xiaorui (NUS High)
- Results:
Gold – Boo Tse Yang Lucas, Tan Xu Chen
Silver – Cheng Puhua, Zhang Xiaorui
Bronze - Shi Cheng, Yang Yue

h. Singapore Mathematics Symposium

- SMS organized the Ninth Singapore Mathematics Symposium on 28 September 2018 at National University of Singapore, LT34
- The symposium featured 4 speakers –Tan Ser Peow, from NUS Department of Mathematics, Kartik Natarajan, from SUTD Engineering Systems and Design, Bernhard Schmidt from NTU School of Physical and Mathematical Sciences, and Zhang De Qi from NUS Department of Mathematics.
- There was also a poster competition participated by graduate students from NUS and NTU. Do Duc Tai from NTU School of Physical and Mathematical Sciences and Uha Isnaini from NTU National Institute of Education were selected by the panel of judges to be the winners of the poster competition.
- The organizing committee for the Ninth Singapore Mathematics Symposium were Gan Wee Teck (Chair), Chan Song Heng, Chan Hock Peng and Adrian Roellin.

i. Singapore Mathematical Project Festival

- The Singapore Mathematics Project Festival 2018 attracted a total of 42 projects. Judging panels, made up of mathematicians and school teachers, were formed to grade the presentation of each team. The grades were used as a reference for short-listing the

projects for the final round. Consequently, 5 teams from the Junior Section and 5 teams from the Senior Section were invited to the Festival Congress held at NUS on 31 March 2018.

- To encourage students to participate in the final congress other than the few teams selected for the final presentation, a prize presentation was held for the non-shortlisted projects for Bronze / Honorable Mention / Excellent Presentation Prizes.
- The judges for the Festival were Ku Cheng Yeaw, Tay Tiong Seng, Teo Kok Ming, Toh Pee Choon, Wang Fei, and Zhao Dongsheng,

j. SMS Essay Competition 2018

- The Society organized the 8th SMS essay competition with the theme “Mathematics and Cryptology”. In the light of the recent cryptocurrency hype, the competition aimed to motivate the students to explore the field of cryptography and discover the Mathematics behind this important application in cyber security. The competition was officially launched on 9 March 2018 during a lecture of the SMS Lecture Series titled “You don’t have to buy Bitcoin. You can mine it.” by Dr. Kiah Han Mao.
- The Society received a total of 48 entries from 13 schools with 16 entries for Category A (secondary 1 & 2 or equivalent), 20 for Category B (Secondary 3 & 4 or equivalent), and 12 for Category C (JC or equivalent).
- The judges for the competition were:
Category A: Mr. Kevin Oh Swee Long (MOE) and Mdm. Low Leng (MOE).
Category B: Mr. Christian Ong Go (NUS) and Dr. Tan Weiyu Colin (NUS).
Category C: Prof. Ho Weng Kin (NIE) and Dr. Kiah Han Mao (NTU).

k. Mathematics Teachers Conference 2018

- About 900 participants, mostly local mathematics teachers, attended the Mathematics Teachers Conference 2018 which took place on 31 May 2018 at Nanyang Technological University/National Institute of Education (NIE).
- The event was co-organized by the Mathematics & Mathematics Education Academic Group of NIE and the Association of Mathematics Educators, and supported by SMS. Several SMS members were invited to deliver lectures and workshops for the teachers.

l. Annual Prize Presentation Ceremony

- The Prize Presentation Ceremony was held on 1 September 2018, at the NUS High School of Mathematics and Science Auditorium. The Guest of Honour was Miss Zerlinda Tan, Country Talent Acquisition Senior Manager, Micron Technology.
- The following prizes were given out at the ceremony:
 - 2 prizes for the Singapore Mathematics Project Festival (Junior Section)
 - 4 prizes for the Singapore Mathematics Project Festival (Senior Section)
 - 9 prizes for the SMS Essay Competition (3 each in categories A, B and C)
 - 30 individual prizes for the Singapore Mathematical Olympiad (Junior section)
 - 30 individual prizes for the Singapore Mathematical Olympiad (Senior section)
 - 30 individual prizes for the Singapore Mathematical Olympiad (Open section)
 - 3 School Awards for the SMPF Partnership Award – 5 years
 - 3 School Awards for the SMPF Partnership Award – 10 years
 - 1 School Award for the SMPF Partnership Award – 15 years
 - 40 School Awards for the Singapore Mathematical Olympiad (Category 1)
 - 23 School Awards for the Singapore Mathematical Olympiad (Category 2)
 - Awards to the Singapore Team to the 59th International Mathematical Olympiad

m. Silkroad Mathematics Center

- The Third Meeting of Steering Committee of the SMC was convened on 23 July 2018 at the Academy of Mathematics and System Sciences, Chinese Academy of Sciences, Beijing. SMS's President attended the meeting as founding members of SMC.

n. International Mathematics Union

- SMS's President attended the IMU General Assembly Meeting at São Paulo, Brazil on July 29-30, 2018.

o. SEAMS

- SMS's President attended the SEAMS Council Meeting at Manila, Philippines on Sep 3, 2018.

p. Enrichment Programmes in Mathematics

- **Primary Mathematics Olympiad Programme (PMOP)**
SMS conducted the programme in May and November at NUS respectively. Altogether 136 students attended the programme.
- **Secondary Enrichment Programme**
SMS conducted 7 sessions of enrichment courses/talks for MOE Gifted Programme in 2018. In addition, the Society also conducted another 14 sessions of enrichment classes for five different secondary schools (Holy Innocents' High School, CHIJ Saint Nicholas Girls' School, Catholic High School, Paya Lebar Methodist Girls' School (Secondary), Temasek Secondary School).

4. SMS Prizes in Mathematics

- The **Singapore Mathematical Society Challenge Trophy** for Junior Section (Team) of the Singapore Mathematical Olympiad 2018 was won by NUS High School of Mathematics and Science.
- The **Singapore Mathematical Society Challenge Trophy** for Senior Section (Team) of the Singapore Mathematical Olympiad 2018 was won by Raffles Institution.
- The **Singapore Mathematical Society Challenge Trophy** for Open Section (Team) of the Singapore Mathematical Olympiad 2018 was won by NUS High School of Mathematics and Science.
- The **Singapore Mathematical Society Prize** for Open Section (Individual) of the Singapore Mathematical Olympiad 2018 was awarded to Joel Tan Junyao of NUS High School of Mathematics and Science.
- The **Singapore Mathematical Society Gold Medal and Book Prize** 2018 at NUS was awarded to Tran Hoang Bao Linh, a student in Mathematics with First Class Honours and best overall performance in Mathematics.
- The **Singapore Mathematical Society Gold Medal and Book Prize** 2018 at NTU was awarded to Tan Pin Lin, a student in the School of Physical and Mathematical Sciences with First Class Honours and best overall performance in Mathematical Sciences.
- The **Singapore Mathematical Society Medal in Mathematical Sciences** 2018 at NTU is awarded to Yuan Chen, a graduate student with the best PhD thesis in Mathematical Sciences in NTU.
- The **Singapore Mathematical Society Book Prize** 2018 at NIE was awarded to Mr Wang Kangcheng, the best student teacher in Mathematics in the Bachelor of Science (Education)(Secondary) Programme.
- The **Singapore Mathematical Society Book Prize for Engineering Mathematics** 2018 at Temasek Polytechnic was awarded to Oh Geok Kuan, the best Mathematics student from Engineering School.

5. Finance

This is dealt with in the Treasurer's report. The Society wishes to record its thanks to the Honorary Auditor, Dr Lim Kay Jin, for auditing the accounts.

6. Acknowledgements

The Committee wishes to express its thanks to

- The Ministry of Education and Micron Technology for their financial support;
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- Department of Statistics and Applied Probability, National University of Singapore
- Mathematics Society of the National University of Singapore
- Mathematics and Mathematics Education Academic Group of the National Institute of Education
- School of Physical and Mathematical Sciences of Nanyang Technological University for their support and cooperation.

Tang Wee Kee
Honorary Secretary

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