

Singapore Mathematical Society Annual Report 2017

1. Membership

Membership in the various categories at the end of 2017 is shown below.

Membership	2017 figures	2016 figures
Honorary	9	9
Life	99	98
Ordinary	44	55
Institution	55	68
Junior	20	13
TOTAL	217	237

2. Officials

The officials of the Society for 2017 were:

President : A/P Victor Tan
 Ex-Officio : Professor Ling San
 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: A/P Chew Tuan Seng
 Asst Editors : Dr Gwee Hwee Ngee
 A/P Yap Von Bing
 Committee Members: Mrs Tan-Foo Kum Fong
 Dr Toh Pee Choon
 Dr Wong Wei Pin

3. Activities

a. Publications

The Society published two issues (Volume 43, Numbers 1, 2) of the Mathematical Medley, the SMO 2017 solution book (edited by Dr Ku Cheng Yeaw, A/P Tay Tiong Seng, Dr Toh Pee Choon and A/P Toh Tin Lam) and the SMO 2010-2014 Five Years Series (edited by Dr Chua Seng Kiat, A/P Tay Tiong Seng, Mr Thomas Teo Teck Kian and A/P Wong Yan Loi).

b. Lectures

SMS Public Lecture “Deep Learning” by A/Prof Adrian Roellin (NUS) was held on March 10 2017 at LT28, NUS.

c. Distinguished Visitor Programmes

The distinguished visitor for DVP 2017 was Professor Ron Aharoni from the Technion. During his visit, Prof Aharoni conducted

- Academic Talk on “Using Topology in Combinatorics” at the School of Physical and Mathematical Sciences, NTU on February 8;
- Secondary Math Teachers’ Workshop on “Teaching quadratic equations – a test case for some teaching principles” at the Academy of Singapore Teachers on 9 February;
- Public Lecture on “Some Principles in the Teaching of Elementary Mathematics” at LT 31, NUS February 10.

d. Singapore Mathematical Olympiad

- The Society conducted the Singapore Mathematical Olympiad (Junior, Senior and Open Sections) in June 2017. A total of 7613 students from 124 secondary schools and junior colleges participated in the various sections of the Olympiad.
- For Junior Section, there were 3611 participants from 98 schools. For Senior Section, there were 2339 participants from 92 schools. For Open Section, there were 1663 participants from 69 schools. In addition, there were 186 participants from Indonesia and Vietnam.
- In collaboration with the Vietnamese Mathematical Society, the Society conducted round 1 and 2 of SMO in Hanoi. A total of 139 students from 46 schools in different parts of Vietnam took part in the competition.
- The SMO Subcommittee 2017 consisted of
 - Associate Professor Victor Tan (Chairman)
 - Dr Hang Kim Hoo (Deputy Chairman/Administration)
 - Dr Toh Pee Choon (Junior Section Coordinator)
 - Dr Ku Cheng Yeaw (Senior 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 58th International Mathematical Olympiad (IMO) was held in Rio de Janeiro, Brazil from 12 to 23 July 2017. A total of 615 contestants from 111 countries or regions participated in this IMO.
- The Singapore National Team to the 58th International Mathematical Olympiad consisted of the following members:

Team Leader:	Wong Yan Loi (National University of Singapore)
Deputy Team Leader:	Ai Xinghuan (Catholic Junior College)
Contestants:	Tan Junyao Joel (NUS High)
	Wang Peng Jun Bryan (Hwa Chong Institution)
	Toh Shan Hong Dylan (NUS High)
	Ng Yu Peng (Hwa Chong Institution)
	Chew Xuan Da Clarence (NUS High)
	Wang Jianzhi (Raffles Institution)
Observers:	Tay Tiong Seng (formerly National University of Singapore)
	Ling Yan Hao (Observer sponsored by MOE)
	Teh Jiun Harn (Observer sponsored by SMS)

- Tan Junyao Joel and Wang Peng Jun Bryan received gold medals. Toh Shan Hong Dylan received silver medal, Ng Yu Peng and Chew Xuan Da Clarence received bronze medals, Wang Jianzhi received honorable mention. The team attained a total score of 131.
- Unofficially, the team was ranked 7th among 111 countries.
- The Singapore International Mathematical Olympiad Committee 2017 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 2017 was held in Nanchong, Sichuan Province, China, from 11th August to 16th August 2017.
- The Singapore National Team consisted of:
Team Leaders: Mr Teo Teck Kian, Thomas and Ms Angeline Su;
Contestants:
 - Lucas Boo Tse Yang (Raffles Institution)
 - Li Anqi (Raffles Institution)
 - Li Chenxu (Raffles Institution)
 - Toh Hui Kai, David (Raffles Institution)
 - Shi Cheng (Hwa Chong Institution)
 - Jovan Liao Yi Jun (NUS High)
 - Khor Jun Wei (Raffles Institution)
 - Low Choo Ray (Raffles Institution)
- Results:
 - Gold – Lucas Boo Tse Yang, Shi Cheng, Khor Jun Wei
 - Silver – Li Anqi, Li Chenxu, Toh Hui Kai, David, Jovan Liao Yi Jun, Low Choo Ray

g. China Mathematical Olympiad

- The 33rd China Mathematical Olympiad was held in Hangzhou, Zhejiang Province, China from 13th to 17th November 2017. 5 students were selected to represent Singapore accompanied by 2 teachers as team leaders.
- The Singapore National Team consisted of:
Team Leaders: Mr Thomas Teo Teck Kian (Raffles Institution) and Mr Chen Zenghui (Team Leader).
Contestants:
 - Wang Jianzhi (Raffles Institution)
 - Lee Ker Yang (Raffles Institution)
 - Ng Yu Peng (Hwa Chong Institution)
 - Tan Wee Kean (Raffles Institution)
 - Ng Yangyi, Aloysius (Raffles Institution)
- Results:
 - Gold – Ng Yu Peng
 - Silver – Wang Jianzhi, Lee Ker Yang, Tan Wee Kean, Ng Yangyi, Aloysius

h. Singapore Mathematics Symposium

- SMS organized the Eighth Singapore Mathematics Symposium on 29th September 2017 at School of Physical and Mathematical Sciences.

- The symposium featured 4 speakers –Van Vu, from NUS Department of Mathematics, Dong Fengming from NTU National Institute of Education, Yap Von Bing from NUS Department of Statistic and Applied Probability, and Thomas Peyrin from NTU School of Physical and Mathematical Sciences.
- There was also a poster competition participated by graduate students from NUS and NTU. Ng Hong Wai from NTU School of Physical and Mathematical Sciences and Ruixue Zhang 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 Eighth Singapore Mathematics Symposium were Chan Song Heng(Chair), Chan Hock Peng and Gan Wee Teck.

i. Singapore Mathematical Project Festival

- The Singapore Mathematics Project Festival 2017 attracted a total of 48 projects (from 15 schools). 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 1st April 2017.
- 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-shortlist projects for Bronze / Honorable Mention / Excellent Presentation Prizes.
- The judges for the Festival were

Junior Section <ul style="list-style-type: none"> ○ Teo Kok Ming (NIE) ○ Toh Pee Choon (NIE) ○ Zhao Dongsheng (NIE) 	Senior Section <ul style="list-style-type: none"> ○ Ku Cheng Yeaw (NTU) ○ Tay Tiong Seng (SMS) ○ Wang Fei (NUS)
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j. SMS Essay Competition 2017

- The Society organized the 7th SMS essay competition with the theme “Mathematics and Big Data”. The competition was officially launched on 10 March 2017 during the SMS Lecture Series. In view of the burgeoning field of data science, the competition aimed to expose the students to this novel field and to let the students discover applications of Mathematics in various aspects of Big Data.
- The Society received a total of 60 entries from 17 schools with 13 entries for Category A (secondary 1 & 2 or equivalent), 31 for Category B (Secondary 3 & 4 or equivalent), and 16 for Category C (JC or equivalent).
- The judges for the competition were:
 - Category A: Ms Tan Hwee Chiat June (MOE) and Mr Ang Chung Chung Alex (MOE);
 - Category B: Mr Yeo Chee Heng Dennis (MOE) and Ms Angeline Su (MOE);
 - Category C: A/P Adrian Roellin (NUS) and Mdm. Leng Low (MOE).

k. Mathematics Teachers Conference 2017

- The Society supported the Association of Mathematics Educators and the Mathematics & Mathematics Education Academic Group of NIE in the organization of the Mathematics Teachers Conference 2017 on 1st June 2017.
- The theme of the conference was Mathematics Instruction: Goals, Tasks and Activities. The conference attracted over 600 participants, most of whom were local mathematics teachers. A/P Yap Von Bing delivered a keynote Dr Hang Kim Hoo also conducted a workshop for Junior College teachers while A/P Toh Tin Lam conducted a workshop for Secondary School teachers.

l. Annual Prize Presentation Ceremony

- The Prize Presentation Ceremony was held on 2nd September 2017, at the NUS High School of Mathematics and Science Auditorium. The Guest of Honour was Professor Samuel Kou, Director, Institute of Data Science, NUS.
- The following prizes were given out during the ceremony:
 - 6 prizes for the Singapore Mathematics Project Festival (Junior Section)
 - 8 prizes for the Singapore Mathematics Project Festival (Senior Section)
 - 9 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)
 - 39 School Awards for the Singapore Mathematical Olympiad (Category 1)
 - 24 School Awards for the Singapore Mathematical Olympiad (Category 2)
 - Awards to the Singapore Team to the 58th International Mathematical Olympiad

Winners of Gold Medal & Foo Kean Pew Memorial Prize with Excellent Presentation (Senior Section) also presented their winning project: “The congruency of “iso-peri-area” triangles” (by Teoh Jun Jie, Foo Shi Hong, and Teow Hua Jun of HCI).

m. Silkroad Mathematics Center

- The Second Meeting of the Steering Committee was convened on April 17, 2017 at Academy of Mathematics and System Sciences, Chinese Academy of Sciences, Beijing. SMS’s President attended the meeting as founding members of SMC.
- SMS nominated two invited speakers Hoang Viet Ha and Yu Shih-Hsien, and five junior mathematicians: Su Chunmei, Yang Zhiguo, Quek Jia Hao, Ruan Xinran and Zhao Quan to participate in the International Conference on Partial Differential Equations, the inaugural conference of SMC Series International Conferences.

n. Enrichment Programmes in Mathematics

- Primary Mathematics Olympiad Programme (PMOP)
SMS conducted the programme in June and December at NUS respectively. Altogether 257 students attended the programme.
- Talent Outreach Programme (SMS-TOP)
The Society conducted three modules of enrichment programmes on Geometry, Combinatorics and Programming.
- Secondary Enrichment Programme
SMS conducted 6 sessions of enrichment courses/talks for MOE Gifted Programme in 2017. In addition, the Society also conducted another 9 sessions of enrichment classes for five different secondary schools (CHIJ St. Nicolas Girls’ School, Catholic High School, Unity Secondary School, River Valley High School, Paya Lebar Methodist Girls’ School (Secondary), Singapore Chinese Girls’ School, Temasek Junior College, Catholic High School).

4. SMS Prizes in Mathematics

- The **Singapore Mathematical Society Challenge Trophy** for Junior Section (Team) of the Singapore Mathematical Olympiad 2017 was won by Raffles Institution.

- The **Singapore Mathematical Society Challenge Trophy** for Senior Section (Team) of the Singapore Mathematical Olympiad 2017 was won by Raffles Institution.
- The **Singapore Mathematical Society Challenge Shield** for Open Section (Team) of the Singapore Mathematical Olympiad 2017 was won by NUS High School of Mathematics and Science.
- The **Singapore Mathematical Society Prize** for Open Section (Individual) of the Singapore Mathematical Olympiad 2017 was awarded to Dylan Toh Shan Hong and Clarence Chew Xuan Da of NUS High School of Mathematics and Science.
- The **Singapore Mathematical Society Prize** for the Top Three Performers of the National Mathematical Olympiad of Singapore (Primary) 2017, organized by NUS High School of Mathematics and Science.
- The **Singapore Mathematical Society Gold Medal and Book Prize** 2017 at NUS was awarded to Khor Shi Jie, a student in Mathematics with First Class Honours and best overall performance in Mathematics.
- The **Singapore Mathematical Society Gold Medal and Book Prize** 2017 at NTU was awarded to Cai Yuyang, 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 Book Prize for Engineering Mathematics** 2017 at Temasek Polytechnic was awarded to Ng Etek, the best Mathematics student from Engineering School.
- The **Singapore Mathematical Society Medal in Mathematical Sciences** 2017 at NTU is awarded to Han Xiao, a graduate student with the best PhD thesis in Mathematical Sciences in NTU.

5. Finance

This is dealt with in the Treasurer's report. The Society wishes to record its thanks to the Honorary Auditor, A/P Wong Yan Loi, 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;
- NUS High School of Mathematics and Science and Hwa Chong Institution for their assistance in the organization of the Singapore Mathematics Project Festival;
- NUS High School of Mathematics and Science for their assistance in the organization of the Prize Presentation Ceremony;
- - Department of Mathematics of the National University of Singapore
 - 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

February 2018