

**Singapore Mathematical Society
Annual Report 2023**

1. Membership

The membership in the various categories at the end of 2023 is shown below.

Membership	2023 figures	2022 figures
Honorary	9	9
Life	98	98
Ordinary	32	36
Institution	54	59
Junior	8	8
TOTAL	201	210

2. Officials

The officials of the Society for 2023 were:

President :	Dr Hang Kim Hoo	Asst Editors :	A/P Adrian Roellin
Vice-Presidents :	A/P Yap Von Bing		Dr Tan Liang Soon
	A/P Toh Pee Choon	Committee Members :	Dr Lau Jing Feng
	Dr Tang Wee Kee		A/P Ng Keng Meng
Hon Secretary :	Dr Soon Wan Mei		Dr Wong Wei Pin
Hon Treasurer :	Mr Wang Haibin		A/P Vincent Tan
Editor :	A/P Toh Tin Lam	Ex-Officio:	A/P Victor Tan
Asst Secretary :	Dr Wang Fei		
Asst. Treasurer:	Dr Jonathon Teo		

3. Activities

a. Publications

The Society published the SMO 2023 solution book (edited by Dr Teo Kok Ming, A/P Toh Tin Lam, Dr Lau Jing Feng and Dr Tay Tiong Seng).

b. Lectures

- The SMS Lecture Series “Mathematics of Dynamic Processes: Forecasting the Future” by Professor Juan-Pablo Ortega Lahuerta (NTU) was held on March 10, 2023, from 4-5pm in NUS LT27. It was well attended with more than 120 participants.
- The SMS Public Lecture titled “Dr Arthur Benjamin - Mathemagician” by Dr Arthur Benjamin was held on March 24, 2023 in NUS LT27 from 5.15-6.45pm. It attracted more than 250 people, including many young children.

c. Singapore Mathematical Olympiad

- The Society conducted Round 1 and Round 2 of the Singapore Mathematical Olympiad (Junior, Senior and Open Sections) in May and June 2023. A total of 8641 students from 127 secondary schools and junior colleges participated in the various sections of the Olympiad.

- For Junior Section, there were 3852 participants from 102 schools. For Senior Section, there were 2900 participants from 103 schools. For Open Section, there were 1889 participants from 58 schools.
- The SMO Subcommittee 2023 comprised of:
 - Dr Lau Jing Feng (Chairman and Senior Section Round 1 Coordinator)
 - Dr Hang Kim Hoo (Deputy Chairman/Administration)
 - Dr Teo Kok Ming (Junior Section Round 1 Coordinator)
 - Associate Professor Toh Tin Lam (Open Section Round 1 Coordinator)
 - Associate Professor Tay Tiong Seng and Associate Professor Wong Yan Loi (Round 2 Coordinators)
- The following were contributors of competition problems:
Dong Fengming, Ho Foo Him, Ku Cheng Yeaw, Ng Wee Leng, Tay Tiong Seng, Teo Kok Ming, Toh Tin Lam, Wang Fei, Wong Yan Loi.

d. International Mathematical Olympiad (IMO)

- The 64th IMO was held in Chiba, Japan from 3 to 13 July 2023.
- A total of 618 participants from 112 countries or territories participated in IMO 2023.
- The Singapore National Team to the 64th IMO consisted of the following members:
Team Leader: Assistant Professor Soh Yong Sheng (NUS)
Deputy Team Leader: Mr Zong Lixing (Hwa Chong Institution)
Contestants: Cheng Wenhao (Hwa Chong Institution)
Edden Chew Keyn-Hantz (NUS High School of Math and Science)
Goh Hao Xiang, Gabriel (Hwa Chong Institution)
Drew Michael Terren Ramirez (NUS High School of Math and Science)
Yu Qinxi (Raffles Institution)
Peh Yan Xi (Raffles Institution)
Observers: Dr Tay Tiong Seng (SMS)
Mr Ng Yangyi, Aloysius (Olympiad Alumni)
Mr Tan Xu Chen (Olympiad Alumni)
Mr Tan Wee Kean (Olympiad Alumni)
- Edden Chew Keyn-Hantz and Goh Hao Xiang, Gabriel received Gold medals. Drew Michael Terren Ramirez, Cheng Wenhao and Peh Yan Xi received Silver medals. Yu Qinxi received an Honourable mention.
- The Singapore team attained a total score of 171. It was ranked 12th among the 112 countries/territories.
- The Singapore IMO Committee 2023 consisted of the following members and trainers:
A/Prof Wong Yan Loi, Dr Soh Yong Sheng, Dr Tay Tiong Seng, Mr Zong Lixing, Mr Teo Teck Kian Thomas, Mr Lu Shang-Yi, Mr Wang Haibin, Mr Ng Yangyi, Aloysius, Mr Tan Xu Chen, Mr Tan Wee Kean, Ms Shevonne Chia, Mr David Toh Hui Kai, Dr Chua Seng Kee, Dr Chua Seng Kiat, Dr Wang Fei.

e. **China Western Mathematical Invitational**

- The 20th China Western Mathematics Invitational 2023 was held in Chongqing, China, from 4 to 9 August 2023.
- The Singapore National Team consisted of:
Team Leaders: Mr Thomas Teo Teck Kian (Raffles Institution)
Mr Tan Chik Leng (Nanyang Girls' High School)
Contestants: Akash Thiagarajan (NUS High)
Chandranshu Nanda (NUS High)
Ding Chenghao (NUS High)
Liang Chenxi (NUS High)
Raphael Teng Zhi Xiang (NUS High)
Tey Yi Xiang (Hwa Chong Institution)
Sun Wenyuan (Raffles Institution)
Yang Yihan (Raffles Institution)
- Results:
Gold – Akash Thiagarajan, Chandranshu Nanda, Ding Chenghao, Raphael Teng Zhi Xiang, Sun Wenyuan and Yang Yihan.
Silver – Liang Chenxi and Tey Yi Xiang.

f. **China Mathematical Olympiad**

- The 39th China Mathematical Olympiad 2023 was held in Wuhan, Hubei Province, China from 26 November to 3 December 2023.
- The Singapore National Team consisted of:
Team Leaders: Mr Thomas Teo Teck Kian (Raffles Institution)
Mr Tan Chik Leng (Nanyang Girls' High School)
Contestants: Drew Michael Terren Ramirez (NUS High)
Peh Yan Xi (Raffles Institution)
Yu Qinxin (Raffles Institution)
Lv Jindong (Raffles Institution)
Zhao Yaoqi (Hwa Chong Institution)
Xu Ziyu (Hwa Chong Institution)
- Results:
Silver - Drew Michael Terren Ramirez, Peh Yan Xi, Zhao Yaoqi and Xu Ziyu.
Bronze - Yu Qinxin and Lv Jindong.

g. **Singapore Mathematical Project Festival**

- The Singapore Mathematics Project Festival 2023 attracted 23 projects from Junior section and 29 projects from Senior section. Judging panels, made up of mathematicians, were formed to grade the project and presentation of each team. The grades were used as a reference for short-listing the projects for the final round. Consequently, 4 teams from the Junior Section and 5 teams from the Senior Section were invited for the final round.
- The judges for the Festival were
 - Junior Section: Dr Teo Kok Ming, A/P Ho Weng Kin, A/P Toh Pee Choon (NIE)
 - Senior Section: Dr Tay Tiong Seng (SMS), Dr Jonathon Teo, Dr Wang Fei, Dr. Liu Yiqun (NUS)

h. Annual Prize Presentation Ceremony

- The Prize Presentation Ceremony was held on 2 September 2023, at the NUS High School of Mathematics and Science Auditorium.
- The following prizes were given out at the ceremony:
 - 16 prizes for the Singapore Mathematics Project Festival (Junior Section)
 - 21 prizes for the Singapore Mathematics Project Festival (Senior Section)
 - 32 individual prizes for the Singapore Mathematical Olympiad (Junior section)
 - 32 individual prizes for the Singapore Mathematical Olympiad (Senior section)
 - 30 individual prizes for the Singapore Mathematical Olympiad (Open section)
 - 44 School Awards for the Singapore Mathematical Olympiad (Category 1)
 - 20 School Awards for the Singapore Mathematical Olympiad (Category 2)
 - Challenge trophies for the Singapore Mathematical Olympiad (Junior, Senior, Open)
 - Awards to the Singapore Team to the 64th International Mathematical Olympiad

i. SEAMS

Dr Hang Kim Hoo delivered a lecture on ‘The Future of Mathematics and Mathematics Education in Singapore’ at the SEAMS Hanoi Forum 2023 - Southeast Asian Mathematics in 21st Century, and also attended the SEAMS Council Meeting, both through zoom on May 22, 2023.

j. The International Council for Industrial and Applied Mathematics (ICIAM) Presidents’ Meeting and Board Meeting

Dr Bao Weizhu represented SMS to attend the 2023 ICIAM Presidents' Meeting and the ICIAM Board Meeting in Tokyo on August 20 and 26 respectively,

k. Enrichment Programmes in Mathematics

- Primary Mathematics Olympiad Programme (PMOP)
The Society conducted PMOP in June and November. There was a total of 286 students in 10 groups.
- Secondary Enrichment Programme
SMS conducted 2 sessions (4 hours) for Yuan Chin Secondary School, 2 sessions (4 hours) for River Valley High School, and 2 sessions (4 hours) for Paya Lebar Methodist Girls' School.

l. Singapore Science & Engineering Fair (SSEF)

SMS supported the annual SSEF2023 with the **SMS Special Award for Ingenuity** for mathematics projects. The SSEF is an annual event organized by MOE and Science Centre Singapore. The SSEF is a national competition for research projects done by full-time students up to the Junior College level. This SMS Special Award for Ingenuity was awarded to one individual and two teams. The individual project was from NUS High School of Math and Science, titled “On the Applications of Inequalities Containing Sums of Minimum/Maximum of Numbers”. One team project was titled “The Steiner Tree Problem”, from Hwa Chong Institution. The other team project was by students from Eunoia and Temasek Junior Colleges, titled “SSP: An Alternative Perspective to NTRU”. The following members from SMS helped in the judging of the Mathematics Projects for this award: Dr Hang Kim Hoo, Dr Tang Wee Kee and Mr Hang Hao Chuien.

m. Teachers' workshops

An SMS Workshop for Teachers - Student Preparation for Mathematical Olympiad, was organised on 30 August 2023 at NUS Science Faculty S17 05-11. A total of 27 teachers from 18 secondary schools/junior colleges participated in this workshop which was conducted by Dr Hang Kim Hoo and Mr Wang Haibin.

n. SMS blog

The SMS blog was launched in 2022 and it aims to promote mathematical conversations among the mathematics community, locally and beyond. The intended audience are students from schools (upper secondary school and above) and tertiary institutions. The first post in 2023 was titled "A Puzzle on a Glass of Water" and announced in January. Two further blogs were posted in March and May.

4. SMS Prizes in Mathematics

- The **Singapore Mathematical Society Gold Medal and Book Prize 2023** at NUS was awarded to Ho Wei Haw, a student in Mathematics with First Class Honours and best overall performance in Mathematics.
- The **Singapore Mathematical Society Gold Medal and Book Prize 2023** at NTU was awarded to Teh Yu Xuan, 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 2023** at NTU was awarded to Lei Qian, who was a graduate student with the best PhD thesis in Mathematical Sciences in NTU.
- The **Singapore Mathematical Society Book Prize 2023** at NIE was awarded to Chew Wei Sheng, the best student teacher (Secondary Track) in Mathematics in the Bachelor of Science (Education) Programme.
- The **Singapore Mathematical Society Book Prize for Engineering Mathematics 2023** at Temasek Polytechnic was awarded to Yoong Wai Kit, the best Mathematics student from Engineering School.
- The **Singapore Mathematical Society Special Award for Ingenuity** for mathematics projects at SSEF was awarded to an individual and two teams from NUS High School of Math and Science, Hwa Chong Institution, Eunoia and Temasek Junior Colleges.

5. Finance

This was dealt with in the Treasurer's report. The Society wishes to record its thanks to the Honorary Auditor, Prof Zhao Gong Yun, for auditing the accounts.

6. Acknowledgements

The Committee wishes to express its thanks to

- The Ministry of Education;
- 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; and
 - Optiver
- for their support and cooperation.

A handwritten signature in black ink, appearing to read 'Soon Wan Mei Amanda', written over a faint star-shaped graphic.

Soon Wan Mei Amanda
Honorary Secretary

March 2024