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Mathematical
Society

ANNUAL REPORT 1998

I

Membership

Membership in the various categories at the end of 1998 is shown below.
The figures in parentheses represent the corresponding figures for 1997:

Honorary	:	9	(9)
Life	:	51	(50)
Ordinary	:	224	(195)
Institution	:	73	(59)
Junior	:	305	(324)

II

Officials

The officials of the Society for 1998 were:

President	:	Prof Lee Seng Luan
Ex-Officio	:	Prof Koh Khee Meng
Vice-Presidents:		Prof Chow Shui-Nee Mr Hang Kim Hoo A/P Tan Eng Chye
Hon Secretary	:	Dr Ling San
Hon Treasurer	:	Dr Zhao Gongyun
Editor	:	Dr Cheng Kai Nah
Asst Secretary	:	Dr Peter Pang Yu Hin
Asst Editors	:	A/P Judith P Jesudason A/P Leung Ka Hin
Committee Members	:	Dr Ang Keng Cheng A/P Ma Siu Lun Ms Tay Lai Ling Mdm Teo Soh Wah

III

Activities

(a) Publications

One issue (Volume 25, Number 1) of the Mathematical Medley was published. This special issue serves as a record of Singapore's participation in the International Mathematical Olympiad since 1988.

Volume 25 Number 2 was in print at the time this report was being prepared.

(b) Lectures and Workshops

(i) Lectures

The following lectures were given during the year (see also (c) Distinguished Visitor Programme):

<i>Date & Venue</i>	<i>Speaker</i>	<i>Title</i>
26/1/98 NUS	Gilbert Strang MIT	Cosine and Wavelet Tranforms
10/2/98 Yishun JC	Koh Khee Meng NUS	Some Applications of Mathematics
9/3/98 Anderson JC	Koh Khee Meng NUS	Konigsberg Bridge Problem
2/5/98 Park View Pri Sch	Hang Kim Hoo MOE	Understanding & Thinking in Mathematics
27/5/98 Montfort Sec Sch	Koh Khee Meng NUS	Prime Numbers and Their Applications
30/5/98 Chinese High Sch	Hang Kim Hoo MOE	Thinking Through Problem Solving
3/11/98 Dunman Sec School	Cheng Kai Nah NUS	A Theorem from Pythagoras to Fermat

(ii) Mathematics Workshop

- (i) About 250 teachers took part in a workshop on "Mathematics Projects" conducted on 18 April by Prof Koh Khee Meng and A/P Tan Eng Chye at the NUS.
- (ii) An 8-month workshop series on "Problem-Solving and Mathematics Projects" was started in July (to run until March 99). A total of 117 teachers from 56 secondary schools and JCs are participating in this workshop series.
- (iii) A workshop on "Mathematics Projects" was held in December for lecturers at Temasek Polytechnic.
- (iv) A workshop on "Mathematical Thinking, Thinking Mathematically" was organized jointly with the West Zone Primary Mathematics Committee for primary mathematics teachers. It was held at NUS in December.

Jointly with the Departments of Mathematics and Statistics and Applied Probability and the Singapore Institute of Statistics, the Society organized the "Symposium on Probability and Statistics", held on 15 June 1998 at the NUS. The Symposium, which featured lectures by international experts, attracted 55 participants.

(c) Distinguished Visitor Programme

The Society launched the above programme in January 1998. The inaugural Distinguished Visitor was Prof John H Hubbard from Cornell University. An inauguration ceremony cum panel discussion on "IT and Mathematics" was held on January 10 at NUS. As SMS's Distinguished Visitor, Prof Hubbard delivered a public lecture entitled "The Forced Damped Pendulum: Chaos and Control", conducted a workshop for teachers on "Modelling Ecology", and gave a series of lectures on complex dynamical systems at the NUS Mathematics Department. About 250 people attended the public lecture and 40 teachers attended the workshop.

(d) SMS Mathematical Competitions

The SMS conducted three mathematical competitions in 1998. They were:

1. the Singapore Mathematical Olympiad on 4 July 1998;
2. the Singapore Secondary School Mathematical Olympiad (Junior Section) on 2 June 98; and
3. the Singapore Secondary School Mathematical Olympiad (Senior Section) on 2 June 98 and 11 July 98 (Special Round).

A total of almost 6000 students from about 110 schools and organizations took part in these competitions.

The prize presentation ceremony was held on 11 Sep 98 at the Auditorium, Clinical Research Centre, Faculty of Medicine, NUS. Guest-of-Honour Mr Peter Chen, Senior Minister of State (Education), gave away the prizes. The event received good media coverage. The results of the three competitions are attached as appendices.

The Competition Subcommittee consisted of Dr Peter Pang (Chairman), A/P Ma Siu Lun (Vice-Chairman), Dr To Wing Keung, Dr Tan Hwee Huat, A/P Tay Tiong Seng, A/P Fred Leung, Dr Lee Soo Teck, Dr Feng Qi, A/P Lang Mong Lung, Dr Ang Keng Cheng, Dr Ng Kok Onn, Dr Victor Tan.

(e) International Mathematical Competitions

(i) 39th International Mathematical Olympiad (IMO)

Singapore participated in the 39th International Mathematical Olympiad in Taiwan from 10 July to 21 July 1998. The Singapore team consisted of Dr Chua Seng Kiat (Team Leader), Mr Lee Mun Yew (Deputy Leader) and the following six students: He Ruimin (Raffles JC), Huah Cheng Jiann (Victoria JC), Li Hongyi (Raffles JC), Lim Yee Fun (Victoria JC), Lin Shaowei (Raffles JC), and Yeo Keng Hee (Hwa Chong JC).

Huah Cheng Jiann was awarded a Silver medal, Yeo Keng Hee, Lin Shaowei and He Ruimin received Bronze, and Lim Yee Fun and Li Hongyi were awarded Honourable Mentions. In an unofficial ranking by total team score, the Singapore team ranked 22nd among 75 participating teams.

The Singapore International Mathematical Olympiad Committee 1998 consisted of Tay Tiong Seng (Chairman), Wong Yan Loi (Vice Chairman), Chan Onn, Chang Swee Tong, Chen Chuan Chong, Chua Seng Kee, Chua Seng Kiat, Hang Kim Hoo, Koh Khee Meng, Lang Mong Lung, Lee Mun Yew, Leung Ho-Hon Denny, Leung Ka Hin, Lim Bee Hiong, Ng Wei Min, Ong Bee Suan, Poh K.S. Roger, Shaw Swee Tat, Tai Thiam Hoo, Tay Yong Chiang, Teo Wah Liang, Tham Mun See, and Toh Tin Lam.

(ii) Asian Pacific Mathematical Olympiad 1998

The 1998 Asian Pacific Mathematical Olympiad was organised by Mexico. Dr Wong Yan Loi, representing Singapore, served on the Organizing Committee.

The APMO test, conducted separately in the participating countries, was held on 14 March 1998 for the Singapore contestants. The following are the results: Lin Shao Wei (RJC) — Gold; Lim Yee Fun (VJC), Yeo Keng Hee (HCJC) — Silver; Huah Cheng Jiann (VJC), Li Hong Yi (RJC), Lim Yin (RI), He Ruimin (RJC) — Bronze; Hue Yousi Daniel (RJC), Wan Yew Tung (RJC), Soh Chong Kian (RJC) — Honourable Mention.

(f) Enrichment Programmes in Mathematics

(i) For Secondary Students

The 1998 SMS Enrichment Programme for secondary students was held in June at NUS. Altogether 68 students from 16 secondary schools took part. In addition, the following programmes were conducted at schools:

- (i) Gifted Education Programme (held at Raffles Institution), March, 42 participants;
- (ii) GreenRidge Secondary School, June, 33 participants;
- (iii) River Valley High School, June, 57 participants;
- (iv) Xinmin Secondary School, June, 25 participants;
- (v) Tanglin Secondary School, June, 30 participants;
- (vi) Outram Secondary School, July, 30 participants.

(ii) For Primary Students

The Society started the "Primary Mathematics Olympiad Programme" in November 1998. The Programme, made up of 3 modules, was offered to students who had completed primary 5. Programmes were conducted at NUS as well as the following schools: Henry Park Pri Sch, Bendemeer Pri Sch, Tao Nan Sch, and Rosyth Sch. Altogether over 400 students from 46 primary schools took part. The main organizers for this programme were A/P Leung Ka Hin, Dr Peter Pang, A/P Tay Tiong Seng and Dr Wong Yan Loi.

(g) Others

- (i) SMS President Prof Lee Seng Luan was elected to the post of 2nd Vice President of the Singapore National Academy of Science in its Council Meeting on 1 October 1998.
- (ii) Hon Secretary Dr Ling San represented the Society in the Annual Delegates Meeting of the International Mathematical Union in Dresden, Germany.
- (iii) The Society pledged its support to the Asian Mathematical Conference to be held in Manila in the year 2000. Prof Lee Seng Luan and Prof Koh Khee Meng represent Singapore in the Scientific Committee and Steering Committee, respectively.
- (iv) In December, the Society hosted the visit of Professor Polly Sy, President of the South East Asian Mathematical Society (SEAMS), to discuss the Asian Mathematical Conference 2000, joint activities between the mathematics communities of Singapore and the Philippines, and matters related to the SEAMS.
- (v) The International Commission on Mathematical Instruction (ICMI) Conference held in December in Singapore received partial financial support from the Society. Prof Koh Khee Meng served on its Organizing Committee.

IV SMS Prizes in Mathematics for NUS and NTU

The SMS instituted prizes in Mathematics for students in NUS and NTU with effect from 1995. For NUS, the Singapore Mathematical Society Gold Medal and Book Prize 1998 was awarded to Mr Tan Boon Soon Andrew, a student in Mathematics with First Class Honours and best overall performance in Mathematics in his undergraduate studies. For NTU, the Singapore Mathematical Society Book Prize 1998 was awarded to Miss Tan Li Yen, the best student in the academic subject Mathematics in the Final Examination for the degree of Bachelor of Arts/Science with Diploma in Education/Diploma in Education (Physical Education).

V

Finance

This is dealt with in the Treasurer's report. The Society wishes to record its thanks to the Honorary Auditor, Dr Wong Yan Loi, for scrutinising the accounts.

VI

Acknowledgements

The Committee wishes to express its thanks to the Lee Foundation and the Ministry of Education for their financial support; to the Southeast Asian Mathematical Society for donating the SEAMS prize for the Singapore Secondary School Mathematical Olympiad; to Springer-Verlag Singapore Pte Ltd for sponsoring some prizes for the mathematical olympiads; to the following schools for their assistance in the organization of the mathematical olympiads: Anderson Sec Sch, Ang Mo Kio Sec Sch, Buona Vista Sec Sch, Clementi Sec Sch, Nanyang Girls' High Sch, Raffles Institution, River Valley High Sch, Swiss Cottage Sec Sch, The Chinese High Sch, Victoria Sch, Woodlands Sec Sch, Xinmin Sec Sch; to the Department of Mathematics and the Mathematics Society of the National University of Singapore for its support and cooperation; to Prof Chong Chi Tat for officiating the inauguration of the Distinguished Visitor Programme; and to Senior Minister of State Mr Peter Chen for being the Guest-of-Honour at the Mathematical Olympiads Prize Presentation Ceremony.

The Society also acknowledges a donation of \$20,000 from Mr Foo Fook Lian in the memory of his son Foo Kean Pew (BSc(Hon), NUS, 1991).

Last but not least, the Society congratulates its members Prof Lee Seng Luan (joint with A/P Wayne Lawton and A/P Shen Zuowei) and Dr Zhu Chengbo for winning the 1998 National Science Award and Young Scientist Award, respectively, for their outstanding research achievements in mathematics.

Ling San
Honorary Secretary

20 January 1999