

# Singapore Mathematical Competitions 2006

**Every year, Singapore Mathematical Society organizes Singapore Mathematical Olympiads and Singapore Project Festival. Singapore Project Festival was held in March 2006 while the three Mathematical Olympiads competitions were held in June 2006.**

The Singapore Mathematics Project Festival 2006 attracted fifty-six teams of participants from twenty-five secondary schools. Five teams each from the Junior and Senior Sections were invited to the Festival Congress held at River Valley High School on 16 March 2006. A special talk for teachers and students entitled "Mathematics Defines the Project." by Dr. Tay Eng Guan was given preceding the project presentations. Nearly three hundred teachers and students from various secondary schools attended the Festival Congress. After the project presentation, the teams were interviewed by the judges to probe further into their understanding of the project material. The judges for the Festival were Dr. Lee Tuo Yeong, (NIE), Dr. Toh Tin Lam (NIE) and A/P Zhao Dongsheng (NIE) for the Senior Section; A/P Helmer Aslaksen (NUS), A/P Chew Tuan Seng (NUS) and Mr. Lawrence Neo (Nanyang JC) for the Junior Section.

The Singapore Mathematical Society (SMS) has organised the Singapore Mathematical Olympiad (SMO) annually since the 1950s. It is the largest and oldest mathematics competition in Singapore. Over the last few years, with the Department of Mathematics, National University of Singapore, as co-organisier, the SMO has seen a significant expansion. In May/June 2006, 9016 students from 132 secondary schools and junior colleges took part in the SMO.

The details of the three competitions are as follows:

1. The Singapore Mathematical Olympiad (Junior Section) for secondary school students up to age 14;
2. The Singapore Mathematical Olympiad (Senior Section) for all secondary school students up to the age of 16;
3. The Singapore Mathematical Olympiad (Open Section) for all secondary school and junior college students.

Team and individual cash prizes are awarded in addition to Gold, Silver, Bronze and Honourable Mention awards. We aim to make the SMO measure the mathematical proficiency of the students, and the Gold, Silver, Bronze and Honourable Mention certificates are awarded to students who meet set criteria that are dependent on the level of difficulty of the competition.

**The Mathematical Competition Subcommittee consisted of**

A/P Helmer Aslaksen (Chairman), Mr Hang Kim Hoo (Deputy Chairman/ Administration), A/P Yang Yue (Junior Section Coordinator), A/P To Wing Keung (Senior Section Coordinator), Dr Roger Poh (Open Section Coordinator), A/P Tay Tiong Seng (Special Rounds Coordinator), Ms Chan Lai Chee (Operations Coordinator), Mr Melvin Soh (IT Coordinator), A/P Leung Ka Hin, A/P Chew Tuan Seng, A/P Chua Seng Kee, A/P Denny Leung Ho Hon, Mr Ng Wee Seng, Dr Tan Ban Pin, Dr Wong Yan Loi, Dr Toh Tin Lam, Dr Lee Tuo Yeong, Dr Tay Eng Guan, Dr Dong Fengming, Mr Ho Foo Him, Mr Chia Yew Loon, Mr Thomas Teo Teck Kian, Mrs Grace Lee Lie Kian.

The Prize Presentation Ceremony was held at NUS High School of Mathematics and Science on Saturday, 2 September 2006. The Guest-of-Honour was RAdm (NS) Lui Tuck Yew, Minister of State, Ministry of Education. The Society expresses its sincere gratitude to River Valley High School and NUS High School of Mathematics and Science for allowing the use of its facilities to host the Festival Congress and the Prize Presentation Ceremony respectively. We would also like to thank the teacher subcommittee at River Valley High School who did a wonderful job of organizing the Festival Congress, the judges for their time and effort, and to all the participating teams, supervising teachers and their school for the support they shown to the Festival.

Finally, we would also like to thank Ministry of Education for supporting the Festival Congress and Singapore Mathematical Olympiads.

**Singapore  
Mathematical  
Olympiads**

**Singapore  
Project  
Festival 2006**



## Results of Singapore Mathematics Project Festival 2006

### Senior Section

#### **Foo Kean Pew Memorial Prize (Senior Section)**

*noitcelfeR with Ellipse, Rectanges and Boxes*

Hang Hao Chuien, Lim Wei Quan

Hwa Chong Institution

Supervisor: Mr Hang Kim Hoo

#### **Singapore Mathematical Society Shield (Senior Section)**

Hwa Chong Institution

#### **Gold Prize**

*noitcelfeR with Ellipse, Rectanges and Boxes*

Hang Hao Chuien, Lim Wei Quan

Hwa Chong Institution

Supervisor: Mr Hang Kim Hoo

*The Largest  $s, t$ -core Partition*

Wang Tengyao

Hwa Chong Institution

Supervisor: Mr Ang Lai Chiang

*Where is it?*

Kang Jin, Ma Long and Nuh Syahiran Bin Masli

Xinmin Secondary School

Supervisors: Mrs Lim Seah Swee Khim

Mrs Melissa Tan Yee Ting

#### **Silver Prize**

*The Shortest Route*

Fang Naizeng, Dai Zhonghuan, Zhu Yechao, and Wang Ziqiao

Hwa Chong Institution

Supervisor: Mr Ang Lai Chiang

*The Distribution of Cell Ages in a Growing Population of Cells*

Anthony Moh, Ho Wei Xiong, and Bryan Hooi

Anglo Chinese School (Independent)

Supervisor: Mr Venu Rao

#### **Bronze Prize**

*Are You Odd?*

Le Mau Tuan, Tan Jing Han, Lim Wei Liang Jason, and Tan Sheng Zhe Augustine

St. Joseph's Institution

Supervisor: Mrs Sng Swee Yee

*Magic-al Stars*

Audrey Wong Yunqi and Deng Ying

Raffles Girls' School (Secondary)

Supervisor: Mr Teo Koon Soon, Justin

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Project  
Festival 2006

## Junior Section

### **Foo Kean Pew Memorial Prize (Junior Section)**

*PHiZZy Donuts*

Lee Jianle, Lim Jia Wei, Lu Yongquan

Hwa Chong Institution

Supervisor: Ms Gwee Hwee Ngee

### **Singapore Mathematical Society Shield (Junior Section)**

Hwa Chong Institution

### **Gold Prize**

*PHiZZy Donuts*

Lee Jianle, Lim Jia Wei, Lu Yongquan

Hwa Chong Institution

Supervisor: Ms Gwee Hwee Ngee

*Sudoku*

Cheh Carmen

NUS High School of Mathematics and Science

Supervisor: Mr Kevin John Koh

### **Silver Prize**

*The Postman Problem*

Nicholas Foo, Tay Wenyao, Brian Sum, Timotheus Ooi

Anglo-Chinese School (Barker Road)

Supervisor: Mdm Joanne Ng

*An Investigation on the Area of Polygons*

Koh Zhiwen Sidwyn and Ong Yi Pin, Joshua

NUS High School of Mathematics and Science

Supervisor: Mr Kevin John Koh

*Simplex Lock*

Lim Boon Pin, Lim Zi Hong, Tan Yong Wei, and Nuh Syahiran Bin Masli

Jeremias Wong Say Juan

Xinmin Secondary School

Supervisor: Miss Kuck Li Lian

*The Mathematics of Solving Repeated Routes*

Benjamin Aw Chun How

Raffles Institution

Supervisor: Mr Jee Jia Woei

*An Application of the Ross-Macdonald Model to Dengue Spread*

Dong Yang Zi and Wong Yuling Gloria

Nanyang Girls' High School

Supervisor: Mr. Tan Kuo Cheang

*Dice Roller*

Chea Hui Jing, Goh Jia Ling, Ng Shi Ling, Sharleen Tang

Xinmin Secondary School

Supervisor: Miss Yak Hiok Woon

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Project  
Festival 2006



## Junior Section

### Bronze Prize

#### *Mathematical Snooker*

Gavin Chua, Amantha Koh, Tan Li Ping, Chin Hui Ting

Bukit Merah Secondary School

Supervisor: Mrs Oh Choo Hiap

#### *Lucky Lottery*

Chan Ming Fen Grace, Maisie Lynn Koh Yiling,

Han Shuyi, and Ong Hui Yi Joanne

Methodist Girls' School

Supervisor: Mrs Grace Poh

#### *Demystifying the roller coaster*

Armit Kaur, Chuo Kho Xian Sarah, Lee Shu Wei, and Zhang Hui

Methodist Girls' School

Supervisor: Mr Yeo Tiong Hui

#### *Crop Circles and Geometry*

Chen Jiaying, Jolene Loo, Carmen Wong, and Eunice Lai

River Valley High School

Supervisors: Mr Ang Mia Lee and Miss Yew Wei Zhen

### Special Prize in Applicability and Relevance

#### *The Mathematics of Solving Repeated Routes*

Benjamin Aw Chun How

Raffles Institution

Supervisor: Mr Jee Jia Woei

# Singapore Project Festival 2006

# Results of Singapore Mathematical Olympiads 2006

## SMO 2006 Team Results

### Junior Section

Rank	Name of School
1	Raffles Institution
2	Hwa Chong Institution
3	NUS High School of Mathematics and Science
4	Dunman High School
5	Raffles Girls' School (Secondary)
6	St Joseph's Institution
7	Tanjong Katong Secondary School
8	Commonwealth Secondary School
9	Anglo-Chinese School (Independent)
9	Nanyang Girls' High School
11	Catholic High School
11	River Valley High School
13	Nan Hua High School
14	Anderson Secondary School
14	Ang Mo Kio Secondary School
14	CHIJ Secondary (Toa Payoh)
14	Chung Cheng High School (Main)
14	Ngee Ann Secondary School
14	Zhonghua Secondary School
20	Bukit Panjang Govt High School
20	Gan Eng Seng Secondary School
20	Swiss Cottage Secondary School
20	Victoria School

### Senior Section

Rank	Name of School
1	Raffles Institution
2	Anglo-Chinese School (Independent)
2	Hwa Chong Institution
4	Raffles Girls' School (Secondary)
5	Dunman High School
5	Nanyang Girls' High School
7	Xinmin Secondary School
8	Anderson Secondary School
9	Maris Stella High School
10	NUS High School of Mathematics and Science
10	River Valley High School
12	CHIJ St Nicholas Girls' School
12	Crescent Girls' School
14	Catholic High School
14	Victoria School
16	Bukit Panjang Govt High School
16	St Joseph's Institution
18	Cedar Girls' Secondary School
19	CHIJ Secondary (Toa Payoh)
19	Singapore Chinese Girls' School

### Open Section.

Rank	Name of School
1	Hwa Chong Institution
2	Raffles Junior College
3	Victoria Junior College
4	Raffles Institution
5	Nanyang Girls' High School
6	National Junior College
7	Anglo-Chinese School (Independent)
7	Dunman High School
9	NUS High School of Mathematics and Science
10	Raffles Girls' School (Secondary)
10	River Valley High School

Singapore  
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Olympiads



# SMO 2006 Individual Results

## Junior Section (Top 30)

Rank	Name	School
1	Tan Wei Kiat, Douglas	NUS High School of Mathematics and Science
2	Goh Jun Le	NUS High School of Mathematics and Science
3	Vincent Brian Arifin Tjeng	Raffles Institution
4	Wayne Lin	NUS High School of Mathematics and Science
5	Sia Jia Rui, Reremy	Raffles Institution
6	Lam Wee Hian, Perry	NUS High School of Mathematics and Science
7	Tang Huiyao	Raffles Institution
8	Chan Jun Neng, Ryan	NUS High School of Mathematics and Science
9	Khu Boon Hou, Derek	Hwa Chong Institution
10	Chionh Kai Wen, Keven	Raffles Institution
11	Hang Zi Kai	NUS High School of Mathematics and Science
11	H'ng Eng Keat	Hwa Chong Institution
13	Li Yuanning	Raffles Institution
14	Alexander George Wood	Tanjong Katong Secondary School
15	Li Tiansheng	Hwa Chong Institution
16	Tng Jia Hao, Barry	Raffles Institution
17	Koh Yong En	Raffles Institution
18	Khor Shi-Jie	Hwa Chong Institution
19	Tan Yi Shuan, Marcus	Tanjong Katong Secondary School
20	Low Jin Siang	NUS High School of Mathematics and Science
21	Wong Ying Lin, Gabriel	NUS High School of Mathematics and Science
22	Guo Yanling	NUS High School of Mathematics and Science
23	Lim Chern Yuen	Hwa Chong Institution
24	Chin Zhan Xiong	Raffles Institution
24	Tan Fu Nan	NUS High School of Mathematics and Science
26	Yang Ji'an	Raffles Institution
27	Li Yao'an	Raffles Institution
28	Quek Keng Yong	Raffles Institution
28	Khu Boon Tat, Daren	Hwa Chong Institution
30	Chee Chong Kit, Nicholas	Raffles Institution

## Senior Section (Top 30)

Rank	Name	School
1	Lim Wei Quan	Hwa Chong Institution
2	Nguyen Trung Quan	Anglo-Chinese School (Independent)
3	Wu Hong	Nanyang Girls' High School
4	Chu Toan Thang	Anglo-Chinese School (Independent)
5	He Chi	Raffles Institution
6	Wang Hao Bin	Raffles Institution
7	Tan Juanhe	Raffles Institution
8	Wang Yizhen	Raffles Institution
9	Xie Zhi Fang	Dunman High School
10	Wang Yuhan	Hwa Chong Institution
11	Huang Yu	Raffles Institution
12	Xu Zhiping	Raffles Girls' School (Secondary)
13	Liu Fangzhou	Raffles Girls' School (Secondary)
14	Hoang The The Gia	Raffles Institution
15	Liu Yu	Raffles Institution
16	Ru Mohan	Xinmin Secondary School
17	Xu Hao	Nanyang Girls' High School
18	Li Ran	Raffles Institution
19	Ren Bowen	Raffles Institution
20	Yeo Zheng Hang	Hwa Chong Institution
21	Le Khac Minh Tri	Raffles Institution
22	Qiang Bo	Xinmin Secondary School
23	Le Ngoc Hai	Bukit Panjang Govt High School
24	Do Thuc Truc	St Joseph's Institution
25	Liu Ye	Dunman High School
26	Chiam Jia-Han	Raffles Institution
27	Fang Yuqing	Dunman High School
28	Chan Wai Hong, Ronald	Raffles Institution
29	Lu Yang	Raffles Institution
29	Xie Zenian	Raffles Institution



### Open Section (Top 30)

Rank	Name	School
1	Zhao Yan Raffles	Junior College
2	Wang Tengyao	Hwa Chong Institution
3	Wu Jiawei	Raffles Junior College
4	Bryan Hooi Kuen-Yew	Anglo-Chinese School (Independent)
5	Hoang Trong Minh Vi	Victoria Junior College
6	Hang Hao Chuien	Hwa Chong Institution
7	Zhang Denan	Hwa Chong Institution
8	Tan Juanhe	Raffles Institution
9	Lim Jun Ren	Raffles Institution
10	Ho Jun Wei	Hwa Chong Institution
10	Wang Yizhen	Raffles Institution
12	Nguyen Trung Quan	Anglo-Chinese School (Independent)
13	Sun Chengbin	Raffles Junior College
14	Xu Zhihong	Hwa Chong Institution
15	Chiam Jia-Han	Raffles Institution
16	Wang Xingyin	Hwa Chong Institution
17	Du Yao	Raffles Institution
17	Tham Zheng Kang	Raffles Junior College
19	Lim Wei Quan	Hwa Chong Institution
20	Long Xueping	Raffles Institution
21	Shi Zhiming	Hwa Chong Institution
22	Wang Shengtao	Hwa Chong Institution
23	Nguyen Ha Thu	Victoria Junior College
24	Di Junwei	Hwa Chong Institution
25	Xu Zhiping	Raffles Girls' School (Secondary)
26	Fan Qi	Hwa Chong Institution
27	Lin Mingyan, Simon	Victoria Junior College
28	Li Nan	Jurong Junior College
29	Dominic Lee Jun	NUS High School of Mathematics and Science
30	Chn Toam Thang	Anglo-Chinese School (Independent)



Team winner for junior Section with Professor Ling San.



Team Winner for Senior Section with Radm (NS) Lui Teck Yew



Team Winner for Open Section with Radm (NS) Lui Teck Yew

# Singapore Mathematical Olympiads