

Singapore Mathematical Society Events and Activities 2021

1. SMS Lecture Series

This annual lecture series, which is traditionally organized in conjunction with the Annual General Meeting of the Singapore Mathematical Society, features eminent local mathematicians or mathematics educators to share with the public some of their interests and ideas.

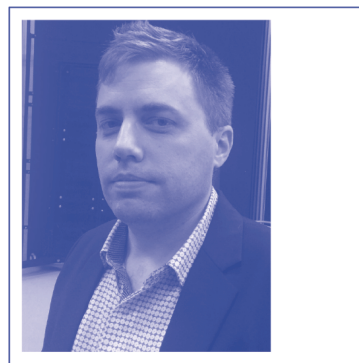
Date: 11th March 2021

Venue: Zoom

Title: Mathematical Models and Epidemics

Speaker: Alex Cook

Abstract: Mathematical modelling has been very prominent during the COVID-19 pandemic, to the extent that the paparazzi camped outside leading modelers' houses trying to catch them breaking lockdown rules. The use of mathematics in infectious disease outbreaks has a long history however, dating back to Nobel laureate Ronald Ross's work on malaria in the early decades of the 20th century. In Singapore, models have helped to inform policies around school closure, the circuit breaker lockdown, border control, and now vaccine rollout, and contributed in a small way to keeping the number of deaths in Singapore to a minimum. In this lecture I will talk about some of these contributions and, I hope, convince you that mathematicians have an important role in health.



2. Singapore Mathematical Olympiad 2021

Dates:

Sep 6, 2021 (Junior and Senior section – Round 1)

Sep 7, 2021 (Open section – Round 1)

The Society conducted the Singapore Mathematical Olympiad Round 1 (Junior, Senior and Open Sections) in September 2021. Round 2 was cancelled due to covid-19.

A total of 7216 students from 104 schools participated in the various sections of the Olympiad.

For Junior section, there are 3412 participants from 85 schools. For Senior section, there are 2129 participants from 79 schools. For Open section, there are 1675 participants from 50 schools.

The SMO Subcommittee 2021 consists of

- Dr Ku Cheng Yeaw (Chairman and Senior Section Round 1 Coordinator)
- Dr Hang Kim Hoo (Deputy Chairman/Administration)
- Associate Professor Toh Pee Choon (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)

3. Singapore Mathematics Projects Festival 2021.

This year the Project Festival attracted 24 projects from Junior section and 24 projects from Senior section.

Students submitted their projects and presentation videos for preliminary round selection. 3 teams from the Junior section and 5 teams from Senior Section were invited to for final round held online.

The judges for the Festival were

- Junior Section: Dr Teo Kok Ming, Assoc Prof Zhao Dong Sheng, Assoc Prof Toh Pee Choon (NIE)

- Senior Section: Dr Ku Cheng Yeaw (NTU), Dr Tay Tiong Seng (SMS), Dr Wang Fei, Dr. Liu Yiqun (NUS)

Medals were awarded to the following projects:

Junior section

- Gold (Foo Kean Pew Memorial Prize): **Slithering Graphs**, by Wan Tse Peng Lucien, Lye Jing-Yu, Rao Zhuoxing, Xu Ziyu (Hwa Chong Institution)
- Gold: **Chopsticks**, by Foo Gesar, Aidan Ong Ming Feng, Oh Li-Wei, Sa Ziyang (Hwa Chong Institution)
- Silver: **Using Origami Folds to Deploy Fire Blankets Efficiently**, by Cheryl Lim Xue-En, Gail Lee Yi Ying, Pranati Bhatt, Tarra Leck Qiantong (Methodist Girls' School (Secondary))
- Silver: **Investigation On A Modified Battleship Gameplay**, by Chua Zhe Lei, Ong Shiang Hui, Sim Zi Hui Kylie (School of Science and Technology)
- Bronze: **Pushing the Limits**, by Aarushi Srivastava, Atluri Anvitha, Ng Ren Yu, Isabelle Chong (Methodist Girls' School (Secondary))
- Bronze: **Ultimate Tic Tac Toe**, by Chia Zhen Hong, Hugo Maximus Lim, Lim Yi Chen (NUS High School of Mathematics and Science)
- Bronze: **Bubble Business: Applying Mathematics and Statistic to Bubble Tea Sales**, by Lee Yu Chen Xavier, Putri Lie Xue Ying, Tan Wei Ting Zara, Lim Ming Ian (Dunman High School)
- Bronze: **Pooling around with Math**, by Ong Miao Ying, Clara, Yew Shi Hui Kelly, Yong Siang Yu, Kayden Yap Shi Jie (Dunman High School)
- Bronze: **The 24 Game**, by Loo Wayhan Brian, Kong Jia Le, Ng Yew Siang (Hwa Chong Institution)
- Bronze: **Jumping Chess**, by Ho Si Jia, Cherie Koh Xi Wen, Foo Yong Huei Rebecca (Nanyang Girls' High School)
- Bronze: **Quoridor**, by Drew Michael Terren, Ramirez, Selvakumar Vigneshwaran (NUS High School of Mathematics and Science)
- Bronze: **Magic Matrices**, by Myat Know Htut, Vijoy Akshat (NUS High School of Mathematics and Science)

Senior section

- Gold: **The Wheels of Life**, by Yin Junren, Ryan, Chow Xing Yu, Wong Yee Hern (Hwa Chong Institution)

- Gold: **Investigation of the Shoelace Method in Higher Dimensions**, by Xu Yifan, Deng Chunyi (NUS High School of Mathematics and Science)
- Silver: **Numerical Analysis of Bulirsch-Stoer method with application in Chaotic Systems**, by Tan Yun Hui (NUS High School of Mathematics and Science)
- Silver: **Centralisation of Traits**, by Lim Jin Tao, Daniel Ng Chun Kit, Nicole Tang Shu Ying (NUS High School of Mathematics and Science)
- Silver: **Optimisation of Water System**, Chua Rui Hong, Zhu Xing Yu, Javier Chan Yan Kai, Ooi Xuan Shan (Hwa Chong Institution)
- Silver: **On Some Combinatorial Identities**, by Lim Teck Kong (NUS High School of Mathematics and Science)
- Bronze: **Project 100011100001111**, by Tan Ling Ray, Hong Jin Kai, Kok Wei En Isaac (Dunman High School)
- Bronze: **Functional Equations with Permutations of Finite Order**, by Tey Yi Fan, He Donghang, Chow Guan Ze, Axel Tong Cheng Yong (Hwa Chong Institution)
- Bronze: **Using Machine Learning to Predict Drug-Drug Interactions**, by Ng Jing Jie, Asher, Calen Tang Wei Heng (Hwa Chong Institution)
- Bronze: **Rain Rain Go Away**, by Qiu Xinyu, Zhang Han Rui Emily, Ma Jinghong, Bai Ruotong (Nanyang Girls' High School)
- Bronze: **Analysis of a Pseudorandom Bit Generator Based on Elliptic Curves**, by Edden Chew Keyn-Hantz, Lim Sue Han Justin (NUS High School of Mathematics and Science)
- Bronze: **The Extension of De Gua's Theorem**, by Soong Zi Yu, Tan Jue Ming, Wong Zi Qi (Paya Lebar Methodist Girls' School (Secondary))
- Bronze: **Generalisation of the Gale-Berlekamp Switch Game for Rectangle Cases**, by Andrew Yar Kwok Wing, Lai Le Hao Jerome, Lee Juin Hsien Justin (Raffles Institution)
- Bronze: **Parametric Simulation-Based Model On Epidemic Behavior**, by Jonathan Tan Jiayi, Ang Ian, Bryan Ng (School of Science and Technology)
- Bronze: **Probability in Snakes and Ladders**, Peter Gregory Hosler IV, Timothy Lim Jing Feng, Akshay Arumpuliyur Vedam, Parthasarathy (Temasek Junior College)
- Bronze: **Recurrence Relation**, by An Xiao, Teoh Yijie, Mu Junrong, Yuan Mengfei (Xinmin Secondary School)

4. Awards

The following awards were given by SMS for SMPF and SMO

- 14 prizes for the Singapore Mathematics Project Festival (Junior Section)
- 14 prizes for the Singapore Mathematics Project Festival (Senior Section)
- 13 individual prizes for the Singapore Mathematical Olympiad (Junior section)
- 11 individual prizes for the Singapore Mathematical Olympiad (Senior section)
- 9 individual prizes for the Singapore Mathematical Olympiad (Open section)
- 44 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 57th International Mathematical Olympiad