

## About 2021 Hang Lung Mathematics Awards

### I. Participation

Over 60 teams from nearly 40 secondary schools in Hong Kong have participated in the 2021 Hang Lung Mathematics Awards.

### II. Winners

#### Gold Award

Team Member: CHAN Tsz Hin  
Teacher: Mr. LEE Ho Fung  
School: Pui Ching Middle School  
Topic: On Non-Torsion Solutions of Homogeneous Linear Systems  
over Rings

#### Silver Award

Team Member: LUO On Ki  
Teacher: Mr. LEE Ho Fung  
School: Pui Ching Middle School  
Topic: The Johnson-Leader-Russell Question on Square Posets

#### Bronze Award

Team Member: LAI Wai Lok  
Teacher: Mr. CHEUNG Pak Leong  
School: St. Paul's Co-educational College  
Topic: Solvability of the General Pell's Equation, Quadratic  
Residuosity, and Real Quadratic Fields of Class Number Two

**Honorable Mentions** (of equal ranking and listed by school name and surname of the first-named team member in alphabetical order)

Team Members: CHENG Nick Hang, SHUM Hei Chai, TONG Chun Shing  
Teacher: Mr. CHAN Long Tin  
School: Diocesan Boys' School  
Topic: On the Variations of the Brachistochrone Curve

Team Member: CHUI Tsz Fung  
Teacher: Mr. CHAN Long Tin  
School: Diocesan Boys' School  
Topic: On the Basel Problem: Generalizations to other Power Series

Team Member: Myron LAM  
Teacher: Mr. CHAN Long Tin  
School: Diocesan Boys' School  
Topic: An Investigation on the Rings of Integer-Valued Polynomials on Gaussian Integers and Integer-Valued Continuous Functions

Team Members: MOK Chun Hei, WEI Chi Kong, TO Wang Kin  
Teacher: Mr. CHO Ka On  
School: S.K.H. Tsang Shiu Tim Secondary School  
Topic: On the Generalization of the Triangle Peg Problem to Higher Dimensions

Team Members: CHEUNG Hui Yat, FONG Pak Kiu, LEE Shing Him,  
LEUNG Ka Chai Justin, TING Siu Lam  
Teacher: Mr. CHU Wai Man  
School: Wah Yan College, Kowloon  
Topic: Investigation on the Buffon-Laplace Needle Problem

### III. Committees and Panel (with affiliation at the time of the Awards)

#### Scientific Committee

The Scientific Committee comprises world-renowned mathematicians and is the academic and adjudicating body of the Hang Lung Mathematics Awards. It oversees the whole process of assessment, reviewing of the research reports, and conducting the oral defense. The committee upholds the academic integrity and high standard of the mathematics research competition.

*Chair:* Professor Richard Schoen, 2017 Wolf Prize Laureate in Mathematics;  
Stanford University, and University of California, Irvine

*Members:*

Professor Raymond Hon Fu Chan, City University of Hong Kong  
Professor Andrew G. Cohen, The Hong Kong University of Science and Technology  
Professor Ingrid Daubechies, Duke University  
Professor Frederick Tsz-Ho Fong, The Hong Kong University of Science and Technology  
Professor Jun Kigami, Kyoto University  
Professor Gitta Kutyniok, Ludwig Maximilian University of Munich  
Professor Wei-Ping Li, The Hong Kong University of Science and Technology  
Professor Ngaiming Mok, The University of Hong Kong  
Professor Jill Pipher, Brown University  
Professor Van Vu, Yale University  
Professor Tom Yau Heng Wan, The Chinese University of Hong Kong  
Professor Ya-xiang Yuan, Chinese Academy of Sciences  
Professor Shou-Wu Zhang, Princeton University

#### Screening Panel

The Screening Panel under the Scientific Committee handles the initial review of the submitted research reports, supervises the second and final round of the review process, and liaises with all referees and members of the Scientific Committee regarding the research reports.

*Chair:* Professor Frederick Tsz-Ho Fong  
The Hong Kong University of Science and Technology

*Members:*

Professor Ivan Chi Ho Ip, The Hong Kong University of Science and Technology  
Professor Tianling Jin, The Hong Kong University of Science and Technology  
Dr. Albert Yin Bon Ku, The Hong Kong University of Science and Technology  
Professor Eric Marberg, The Hong Kong University of Science and Technology  
Professor Maosheng Xiong, The Hong Kong University of Science and Technology

## **Steering Committee**

The Steering Committee comprises mathematicians and leaders from different sectors of society, serves as the advisory body, and provides support, guidance, and oversight of the Awards.

*Chair:* Professor George F. Smoot, 2006 Nobel Laureate in Physics,  
The Hong Kong University of Science and Technology

*Members:*

Professor Thomas Kwok Keung Au, The Chinese University of Hong Kong  
Professor Tony F. Chan, JP, King Abdullah University of Science and Technology  
Mr. Alfred Cheung, Tianda Institute  
Dr. Owen H. Ko, The Chinese University of Hong Kong  
Professor Shing Yu Leung, The Hong Kong University of Science and Technology  
Mr. Siu Leung Ma, BBS, MH, Fung Kai Public School  
Professor Michael Kwok Po Ng, The University of Hong Kong  
Professor Xue-Cheng Tai, Hong Kong Baptist University  
Professor Yang Wang, The Hong Kong University of Science and Technology  
Ms. Susan Wong, Hang Lung Properties Limited  
Dr. Chee Tim Yip, Princeton (Shenzhen) International School  
Professor Ding-Xuan Zhou, City University of Hong Kong

## **Executive Committee**

The Executive Committee, which reports to the Steering Committee, is responsible for the operation and administration of the competition. Its Secretariat provides general administrative support to the Awards.

*Chair:* Professor Shing Yu Leung  
The Hong Kong University of Science and Technology

*Members:*

Professor Jimmy Chi Hung Fung, The Hong Kong University of Science and Technology  
Dr. Tsz Kin Lam, The Hong Kong University of Science and Technology  
Dr. Chi Man Leung, The Hong Kong University of Science and Technology  
Dr. Chi Wai Yu, The Hong Kong University of Science and Technology

*Secretariat:*

Ms. Niki Hiu Yan Chan, The Hong Kong University of Science and Technology