

# The List of Winners to 2016 Dongrun-Yau Science Awards (Mathematics)

## Gold Award

School: Guangdong Experimental High School  
Members: Shilun Li  
Instructor: Yidong Wu  
Title: A Class of Convex Curves Arising in Capillary Floating Problem

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## Silver Award

School: Tsinghua University High School  
Members: Zehan Hu, Zeyu Wang  
Instructor: Qingming Yang and Xianfeng Gu  
Title: Voronoi Diagrams on Line Networks and Their Applications

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## Bronze Awards

(1) School: Shanghai high school  
Members: Junhao Fan  
Instructor: Bin Gu  
Title: On the decomposition of sets of consecutive integers

(2) School: Affiliated Middle School of South China Normal University  
Members: Jianxiang Tan, Zhiyuan Zhang  
Instructor: Xinghuai Li  
Title: Brocard Conguration in  $q$ -period Loop Broken Line

(3) School: International School of Boston, USA  
Members: Bella Gu  
Instructor: David Xianfeng Gu  
Title: Geometric Compression Based on Ricci Flow and Monge-Ampere Equation

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## Honorable Mention

(1) School: Affiliated Middle School of South China Normal University  
Members: Wensen Wu  
Instructor: Jingwei Ge  
Title: Constructing Evans triangle with Pell equation

(2) School: Tsinghua High School  
Members: Zhiming Feng  
Instructor: Jianchuan Zeng  
Title: Counting the number of permutations with longest increasing subsequence of a certain length

(3)School: Jinling High School  
Members: Zichong Chen  
Instructor: Yunbiao Liu  
Title: The Number of Subtrees of Trees with Given Diameter

(4)School: Tsinghua University High School  
Members: Honglin Zhu, Jinyi Wang  
Instructor: Qingming Yang  
Title: The Extension of Euler's Formula and Its Applications

(5)School: Hangzhou Foreign Languages School  
Members: Yibin Zhang, Xiaoyang Sun, Zhiyuan Fan  
Instructor: Dongbo Lu  
Title: Acute Triangulation of Rectangles

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### **Consolation Prize**

(1)School: High School Affiliated to Shanghai Jiaotong University  
Members: Jianwen Luo  
Instructor: Yunhe Chen  
Title: Infinite-Dimensional Generalizations of Orthogonal Groups over Hilbert Spaces :  
Constructions and Properties

(2)School: High School Affiliated to Zhejiang Normal University  
Members: Chenxi Li  
Instructor: Yudong Shen  
Title: Virtual Magnifying Glass Based on Optimal Mass Transportation

(3)School: Guangdong Experimental High School  
Members: Leiyu Gong  
Instructor: Junjie Zhang  
Title: Lehmers Totient Problem over  $\mathbb{Z}/p^n \mathbb{Z}[x]$

(4)School: Chengdu Experimental Foreign Languages School  
Members: Zihan Zhang  
Instructor: Dongchun Han  
Title: On Prime Elements in Arithmetic Progressions and Riemann Hypothesis over Function Fields

(5)School: The Affiliated High School of Peking University  
Members: Weichen Gao  
Instructor: Shengjing Sang  
Title: Motion in Quantum-Classical Transition via ODM

(6)School: Tsinghua University High School  
Members: Wentao Zeng, Yuhong Ning, Jiaxu Ma  
Instructor: Yachao Qi  
Title: Establishment and Numerical Solution of Differential Equations for the Composition of Multiple Free Radical Copolymer

(7)School: Danbury Math Academy  
Members: Sarah Zhao

Instructor: Xiaodi Wang

Title: Color QR Code with Pseudo Quantum Steganography and M-band Wavelet and Patch Group  
Prior based Denoising