



William Lowell  
**PUTNAM**  
Mathematical Competition

## ANNOUNCEMENT OF WINNERS

of the eightieth competition held on December 7, 2019

In each of the following categories, the listing is in alphabetical order.

### THE PUTNAM FELLOWS – THE FIVE HIGHEST RANKING INDIVIDUALS

Each receives an award of \$2,500.

ASHWIN SAH	Massachusetts Institute of Technology
KEVIN SUN	Massachusetts Institute of Technology
YUAN YAO	Massachusetts Institute of Technology
SHENGTONG ZHANG	Massachusetts Institute of Technology
DANIEL ZHU	Massachusetts Institute of Technology

### THE NEXT ELEVEN HIGHEST RANKING INDIVIDUALS

Each receives an award of \$1,000.

ADAM ARDEISHAR	Massachusetts Institute of Technology
ANKAN BHATTACHARYA	Ohio State University
ANDREW GU	Massachusetts Institute of Technology
DAVID KEWEI LIN	Stanford University
ALLEN LIU	Massachusetts Institute of Technology
JUNYAO PENG	Massachusetts Institute of Technology
QIUYU REN	Massachusetts Institute of Technology
CARL SCHILDKRAUT	Massachusetts Institute of Technology
MIHIR SINGHAL	Massachusetts Institute of Technology
RUI YAO	Massachusetts Institute of Technology
WILLIAM ZHAO	Massachusetts Institute of Technology

### THE NEXT TWELVE HIGHEST RANKING INDIVIDUALS

Each receives an award of \$250.

JIYANG GAO	Massachusetts Institute of Technology
DAIN KIM	Massachusetts Institute of Technology
MYEONHU KIM	Columbia University
TINGCHUN LIN	Massachusetts Institute of Technology
DANIEL LIU	Massachusetts Institute of Technology
KEVIN LIU	Massachusetts Institute of Technology
ESHAAN NICHANI	Massachusetts Institute of Technology
MICHAEL REN	Massachusetts Institute of Technology
VICTOR RONG	Massachusetts Institute of Technology

## THE WILLIAM LOWELL PUTNAM MATHEMATICAL COMPETITION

SHELDON KIEREN TAN  
FRANKLYN WANG  
JACOB ZHANG

Harvard University  
Harvard University  
University of California, Los Angeles

### HONORABLE MENTION – INDIVIDUALS

RAUL ALCANTARA, Massachusetts Institute of Technology

KIRIL BANGACHEV, Princeton University

ADAM BERTELLI, Carnegie Mellon University

VINCENT BIAN, Massachusetts Institute of Technology

JACKSON BLITZ, Princeton University

CIPRIAN BONCIOCAT, University of California, Los Angeles

KRIT BOONSIRISETH, Massachusetts Institute of Technology

MERRICK CAI, Massachusetts Institute of Technology

IAN CHEUNG, University of Waterloo

SUCHAKREE CHUELUECHA, Lehigh University

ALEXANDRU DAMIAN, Duke University

QUANG DAO, Columbia University

KAAN DOKMECI, Massachusetts Institute of Technology

THOMAS DRAPER, Brigham Young University

JUNHAO FAN, University of California Berkeley

SWAPNIL GARG, Massachusetts Institute of Technology

ALBERT GEVORGYAN, University of Waterloo

EDWARD HOU, Carnegie Mellon University

JEFFREY HUANG, University of Texas, Austin

VINCENT HUANG, Massachusetts Institute of Technology

JUNGHYUN HWANG, Duke University

SEBASTIAN JEON, Massachusetts Institute of Technology

AKSHAJ KADAVERU, Massachusetts Institute of Technology

FATIH KALEOGLU, Princeton University

SEHUN KIM, Harvard University

PHUC LAM, University of Rochester

EUGENE LEE, Carnegie Mellon University

AUSTIN LEI, University of California Berkeley

ALEXANDER LI, University of Texas, Austin

JEFFERY LI, Massachusetts Institute of Technology

SAMUEL LI, University of Toronto

YI LI, Duke University

ANDREW LIN, Massachusetts Institute of Technology

DACHEY LIN, University of Texas, Austin

JAMES LIN, Massachusetts Institute of Technology

DYLAN LIU, Massachusetts Institute of Technology

JASON LIU, University of Nevada, Reno

STEVEN LIU, Massachusetts Institute of Technology

FRANK LU, Princeton University

MICHAEL MA, Massachusetts Institute of Technology

ERIK METZ, University of Maryland, College Park

ALEKSA MILOJEVIC, Princeton University

JOHN MISTELE, Stanford University

SRIJON MUKHERJEE, Massachusetts Institute of Technology

ADITYA PARULEKAR, University of Texas, Austin

LAURA PIERSON, Harvard University

QI QI, Massachusetts Institute of Technology

CARL JOSHUA QUINES, Massachusetts Institute of Technology

SEYOON RAGAVAN, Princeton University

BRIAN REINHART, Massachusetts Institute of Technology

KEVIN REN, Massachusetts Institute of Technology

PEDRO SACRAMENTO, University of Pennsylvania

DILHAN SALGADO, Carnegie Mellon University

SIVAKORN SANGUANMOO, University of Wisconsin, Madison

GIAN CORDANA SANJAYA, University of Waterloo

MEHTAAB SAWHNEY, Massachusetts Institute of Technology

TRISTAN SHIN, Massachusetts Institute of Technology

ALEC SUN, Harvard University

KAI SUN, University of Waterloo

COLIN TANG, Massachusetts Institute of Technology

MICHAEL TANG, Massachusetts Institute of Technology

ANZO ZHAO YANG TEH, University of Waterloo

ANTON TRYGUB, Massachusetts Institute of Technology

SAAKETH VEDANTAM, Massachusetts Institute of Technology

RAN WANG, Yale University

SHIHUYU WANG, Massachusetts Institute of Technology

STANLEY WANG, Massachusetts Institute of Technology

ZHUOFAN XIE, Massachusetts Institute of Technology

CHRIS XU, Massachusetts Institute of Technology

GUANPENG XU, Massachusetts Institute of Technology

ALAN YAN, Princeton University

RUZHANG YANG, University of Illinois at Urbana-Champaign

RICHARD YI, Massachusetts Institute of Technology

GRANT YU, Stony Brook University

HUNG-HSUN YU, Massachusetts Institute of Technology

RUNZE YU, University of California, Los Angeles

HANZHI ZHENG, Stanford University

BAIQING ZHU, University of California, Los Angeles

KAIQI ZHU, University of California, Los Angeles

YIFAN ZHU, Stanford University

# THE WILLIAM LOWELL PUTNAM MATHEMATICAL COMPETITION

## ELIZABETH LOWELL PUTNAM PRIZE

Each receives an award of \$1,000.

LAURA PIERSON

QI QI

HANZHI ZHENG

Harvard University

Massachusetts Institute of Technology

Stanford University

## WINNING TEAMS

Rank	School	Team Members (in alphabetical order)
1	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Ashwin Sah, Shengtong Zhang, Daniel Zhu
2	HARVARD UNIVERSITY	Sehun Kim, Sheldon Kieren Tan, Franklyn Wang
3	STANFORD UNIVERSITY	David Kewei Lin, John Mistele, Hanzhi Zheng, Yifan Zhu
4	UNIVERSITY OF CALIFORNIA, LOS ANGELES	Ciprian Bonciocat, Jacob Zhang, Kaiqi Zhu
5	UNIVERSITY OF WATERLOO	Gian Cordana Sanjaya, Kai Sun, Anzo Zhao Yang Teh

The institution with the first-place team receives an award of \$25,000, and each member of the team receives \$1,000. The awards for second place are \$20,000 and \$800, respectively. For third place, \$15,000 and \$600; for fourth place, \$10,000 and \$400; for fifth place, \$5,000 and \$200. Where four names are mentioned, there was a tie for third place at that institution.

## HONORABLE MENTION – TEAMS

Listed by university in alphabetical order.

CARNEGIE MELLON UNIVERSITY  
COLUMBIA UNIVERSITY  
PRINCETON UNIVERSITY  
UNIVERSITY OF CALIFORNIA, BERKELEY  
UNIVERSITY OF TEXAS, AUSTIN

Edward Hou, Eugene Lee, Dilhan Salgado  
Quang Dao, Myeonhu Kim, Matthew Lerner-Brecher  
Kiril Bangachev, Aleksa Milojevic, Seyoon Ragavan, Alan Yan  
Junhao Fan, Haydn Gwyn, Austin Lei, Tyler Zhu  
Jeffrey Huang, Alexander Li, Dachev Lin, Aditya Parulekar

## THE WILLIAM LOWELL PUTNAM MATHEMATICAL COMPETITION WAS PREPARED BY:

ANDREW BERNOFF, Harvey Mudd College – Member of the Problems Committee  
IOANA DUMITRIU, University of California, San Diego – Chair of the Problems Committee  
ROBIN PEMANTLE, University of Pennsylvania – Member of the Problems Committee  
DANIEL ULLMAN, George Washington University – Director of the Competition  
MARK KRUSEMEYER, Carleton College - Associate Director of the Competition