# THE WILLIAM LOWELL PUTNAM MATHEMATICAL COMPETITION

# ANNOUNCEMENT OF WINNERS of the seventy-fourth competition held on December 7, 2013

#### WINNING TEAMS

	<b>\</b>	
Rank	School	Team Members (in alphabetical order)
1	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Benjamin P. Gunby, Mitchell M. Lee, and Zipei Nie
2	CARNEGIE-MELLON UNIVERSITY	Michael Druggan, Linus U. Hamilton, and Thomas E. Swayze
3	STANFORD UNIVERSITY	Vishal Arul, Ravi Fernando, and Sam G. Keller
4	HARVARD UNIVERSITY	Octav I. Dragoi, Evan M. O'Dorney, and Allen Yuan
5	CALIFORNIA INSTITUTE OF TECHNOLOGY	Xiangyi Huang, Zhaorong Jin, and Tian Nie

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; for third place \$15,000 and \$600; for fourth place \$10,000 and \$400; and for fifth place \$5,000 and \$200.

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.

MITCHELL M. LEE	Massachusetts Institute of Technology
ZIPEI NIE	Massachusetts Institute of Technology
EVAN M. O'DORNEY	Harvard University
BOBBY C. SHEN	Massachusetts Institute of Technology
DAVID H. YANG	Massachusetts Institute of Technology

# THE NEXT FOURTEEN HIGHEST RANKING INDIVIDUALS

### Each receives an award of \$1,000.

Harvard University
Harvard University
Carnegie-Mellon University
Massachusetts Institute of Technology
Massachusetts Institute of Technology
Harvard University
Princeton University
Massachusetts Institute of Technology
Princeton University
Carnegie Mellon University
Massachusetts Institute of Technology
Massachusetts Institute of Technology
Carnegie Mellon University
Massachusetts Institute of Technology

# THE NEXT SIX HIGHEST RANKING INDIVIDUALS

#### Each receives an award of \$250.

MATTHEW S. BRENNAN	Massachusetts Institute of Technology
MICHAEL B. COHEN	Massachusetts Institute of Technology
RAVI K. FERNANDO	Stanford University
BENJAMIN P. GUNBY	Massachusetts Institute of Technology
IIAOYANG HUANG	Massachusetts Institute of Technology
VICTOR Y. WANG	Massachusetts Institute of Technology

# HONORABLE MENTION—TEAMS

BRIGHAM YOUNG UNIVERSITY DUKE UNIVERSITY UNIVERSITY OF CALIFORNIA, BERKELEY UNIVERSITY OF WATERLOO WASHINGTON UNIVERSITY, ST. LOUIS Peter H. Baratta, Samuel J. Dittmer, and Tianyi Yang Alex Milu, Tong Qiao, and Daniel Vitek Indraneel G. Kasmalkar, Shiyu Li, and Qingyun Wu Kangning (Colin) Chen, Volodymyr Lyubinets, and Hao Sun Anthony Grebe, Patrick Lopatto, and Jongwham Park

# HONORABLE MENTION—INDIVIDUALS

DHROOVA S. AIYLAM, Massachusetts Institute of Technology JOSHUA H. ALMAN, Massachusetts Institute of Technology ANDRE A. ARSLAN, Princeton University ROBI C. BHATTACHARJEE, Massachusetts Institute of Technology SIYUAN CAI, Northwestern University HERMAN H. CHAU, Stanford University CHARLES C. CHEN, Stanford University KANGNING (COLIN) CHEN, University of Waterloo YONGYI CHEN, Massachusetts Institute of Technology PING NGAI CHUNG, Massachusetts Institute of Technology ALEXANDER R. COLE, Massachusetts Institute of Technology CARLOS A. CORTEZ, Massachusetts Institute of Technology SAMUEL J. DITTMER, Brigham Young University THAO T. DO, Stony Brook University OCTAV I. DRAGOI, Harvard University SAM EISENSTAT, University of Waterloo VLAD FIROIU, Massachusetts Institute of Technology YIBO GAO, Massachusetts Institute of Technology ALBERT F. GU, Carnegie Mellon University HAN HAO, New York University LYNDON L. JI, Yale University ZHAORONG JIN, California Institute of Technology PAKAWUT JIRADILOK, Harvard University SUPANAT KAMTUE, Massachusetts Institute of Technology INDRANEEL G. KASMALKAR, University of California, Berkeley SAM G. KELLER, Stanford University ARCHIT U. KULKARNI, Carnegie Mellon University AARON LANDESMAN, Harvard University

JASON M. LI, Carnegie Mellon University KEVIN K. LI, California Institute of Technology RAY YU LI, Carnegie Mellon University CARL LIAN, Massachusetts Institute of Technology DAVID J. LIU, Harvard University ALEXANDROS MOUSATOV, Yale University DAT P. NGUYEN, Stony Brook University LYUBOSLAV N. PANCHEV, Stanford University TOAN D. PHAN, Harvard University MARIYA SARDARLI, Princeton University JEFFREY D. SHEN, Massachusetts Institute of Technology JEONG SOO SIM, Stanford University LAWRENCE J. SUN, Massachusetts Institute of Technology JONATHAN B. TIDOR, Massachusetts Institute of Technology MAX H. TIMMONS, Massachusetts Institute of Technology BARRY JIA HAO TNG, Harvard University GEORGIOS VLACHOS, Massachusetts Institute of Technology SUNG SEOB WHANG, Brown University TIANQI WU, Massachusetts Institute of Technology XIAO WU, Yale University JEFFREY YAN, Harvard University PATRICK B. YANG, Massachusetts Institute of Technology WIJIT YANGJIT, Rensselaer Polytechnic Institute LYNNELLE L. YE, Stanford University QIAN YU, Massachusetts Institute of Technology ZHIVKO N. ZHECHEV, Stanford University ALEX J. ZHU, Massachusetts Institute of Technology YUQI ZHU, California Institute of Technology

#### ELIZABETH LOWELL PUTNAM PRIZE

The winner receives an award of \$1,000.

XIAO WU

Yale University

## **QUESTIONS COMMITTEE**

Djordje Milićević, Bryn Mawr College, Chair; Hugh Montgomery, University of Michigan, Ann Arbor; and David Savitt, University of Arizona.

A total of 4113 students from 557 colleges and universities in Canada and the United States participated in the Competition. There were teams from 430 institutions. More complete details will appear in the American Mathematical Monthly.

March 7, 2014 Leonard F. Klosinski, Director; Gerald L. Alexanderson and Mark Krusemeyer, Associate Directors