# THE WILLIAM LOWELL PUTNAM MATHEMATICAL COMPETITION

# ANNOUNCEMENT OF WINNERS of the seventy-fifth competition held on December 6, 2014

#### **WINNING TEAMS**

Rank	School	Team Members (in alphabetical order)
1	MASSACHUSETTS INSTITUTE OF TECHNOLOGY	Mitchell M. Lee, Zipei Nie, and David H. Yang
2	HARVARD UNIVERSITY	Calvin Deng, Malcolm Granville, and Xiaoyu He
3	RENSSELAER POLYTECHNIC INSTITUTE	Theerawat Bhudisaksang, Owen Goff, and Wijit Yangjit
4	UNIVERSITY OF WATERLOO	Kangning Chen, Sam Eisenstat, and Daniel Spivak
5	CARNEGIE MELLON UNIVERSITY	Linus U. Hamilton, Thomas E. Swayze, and Samuel Zbarsky

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 SIX HIGHEST RANKING INDIVIDUALS

#### Each receives an award of \$2,500.

RAVI JAGADEESAN	Harvard University
ZIPEI NIE	Massachusetts Institute of Technology
MARK A. SELLKE	Massachusetts Institute of Technology
BOBBY C. SHEN	Massachusetts Institute of Technology
DAVID H. YANG	Massachusetts Institute of Technology
LINGFU ZHANG	Massachusetts Institute of Technology

#### THE NEXT TEN HIGHEST RANKING INDIVIDUALS

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

JOSHUA D. BRAKENSIEK	Carnegie Mellon University
CALVIN DENG	Harvard University
OFER GROSSMAN	Massachusetts Institute of Technology
ALBERT GU	Carnegie Mellon University
BENJAMN P. GUNBY	 Massachusetts Institute of Technology
ZHAORONG JIN	California Institute of Technology
MITCHELL M. LEE	Massachusetts Institute of Technology
RAY LI	Carnegie Mellon University
NAT SOTHANAPHAN	Massachusetts Institute of Technology
VICTOR Y. WANG	Massachusetts Institute of Technology

#### THE NEXT ELEVEN HIGHEST RANKING INDIVIDUALS

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

MICHAEL T., DRUGGAN	Carnegie Mellon University
MALCOLM J. GRANVILLE	Harvard University
EUNSOO JEE	Massachusetts Institute of Technology
YUTAO LIU	Massachusetts Institute of Technology
SAMMY Y. LUO	Massachusetts Institute of Technology
DANIEL SPIVAK	University of Waterloo
THOMAS E. SWAYZE	Carnegie Mellon University
ANDERSON S. WANG	Massachusetts Institute of Technology
DONGHAO WANG	University of California, Berkeley
HENGYUN ZHOU	Massachusetts Institute of Technology
TIANYOU ZHOU	Massachusetts Institute of Technology

#### **HONORABLE MENTION — TEAMS**

CALIFORNIA INSTITUTE OF TECHNOLOGY UNIVERSITY OF CALIFORNIA, LOS ANGELES DUKE UNIVERSITY STANFORD UNIVERSITY YALE UNIVERSITY Xiangyi Huang, Zhaorong Jin, Tian Nie Tudor Padurariu, Peihao Sun, Dillon Zhi Feng Gui, Alex Milu, Anthony Qiao Gyujin Oh, Albert Zhang, Zhivko Zhechev Lyndon Ji, Alexandros Mousatov, Xiao Wu

#### HONORABLE MENTION — INDIVIDUALS

IIE JUN ANG, Stanford University RODRIGO S. ANGELO, Princeton University ANDRE A. ARSLAN, Princeton University VISHAL ARUL, Stanford University ITAI BAS-NATAN, University of Toronto ALYAZEED BASYONI, Carnegie Mellon University THEERAWAT BHUDISAKSANG, Rensselaer Polytechnic Institute OMER CERRAHOGLU, Massachusetts Institute of Technology ZEHAN CHAO, University of Illinois, Urbana-Champaign HERMAN H. CHAU, Stanford University EVAN CHEN, Harvard University YONGYI CHEN, Massachusetts Institute of Technology MICHAEL CHOW, University of Toronto ALEXANDER J. CLIFTON, Massachusetts Institute of Technology RAHUL DALAL, Harvard University OCTAV DRAGOI, Harvard University JAMES R. DRAIN, Dartmouth College VAHID FAZEL-REZAI, Massachusetts Institute of Technology YIBO GAO, Massachusetts Institute of Technology HAIDONG GONG, University of Illinois, Urbana-Champaign YUZHOU GU, Massachusetts Institute of Technology XIAOYU HE, Harvard University XIANGYI HUANG, California Institute of Technology LYNDON L. JI, Yale University PAKAWUT JIRADILOK, Harvard University BENJAMIN J. KRAFT, Massachusetts Institute of Technology AARON LANDESMAN, Harvard University JASON M. LI, Carnegie Mellon University DAVID J. LICHKO, California Institute of Technlogy IAN R. McMEEKING, University of Minnesota, Twin Cities ALEXANDROS MOUSATOV, Yale University

WEERACHAI NEERANARTVONG, Massachusetts Institute of Technology MINH PHUONG NGUYEN, Stony Brook University GYUJIN OH. Stanford University TUDOR PADURARIU, University of California, Los Angeles EDWARD S. PARK, Massachusetts Institute of Technology HUY J. PHAM, Stanford University NIPUN PITIMANAAREE, Massachusetts Institute of Technology ZHICHENG QIAO, Duke University VICTOR O. REIS, Cornell University TOMER REITER, Carnegie Mellon University JOSEPH L. RICHEY, University of Michigan, Ann Arbor BRIAN R. RIEDEL, Carnegie Mellon University SAGNIK SAHA, Massachusetts Institute of Technology ABRAM SANDERSON, Harvey Mudd College ERIC D. SCHNEIDER, Princeton University JEFFREY D. SHEN, Massachusetts Institute of Technology TONGJIA SHI, Harvey Mudd College GAURAV J. SINGH, Massachusetts Institute of Technology NATCHANON SUAYSOM, Harvey Mudd College LAWRENCE J. SUN, Massachusetts Institute of Technology ALAN M. TALMAGE, Washington University, St. Louis JONATHAN B. TIDOR, Massachusetts Institute of Technology HAI TRAN BACH, University of Michigan, Ann Arbor BRIAN A. WAI, Stanford University JESSE K. WANG, Yale University ZIHAO WANG, Harvard University DAI YANG, Massachusetts Institute of Technology WIJIT YANGJIT, Rensselaer Polytechnic Institute XINWEI YAO, Yale University ALLEN L. YUAN. Harvard University ALBERT R. ZHANG, Stanford University

## **QUESTIONS COMMITTEE**

Hugh Montgomery (Chair), University of Michigan, Ann Arbor; Henry Cohen, Microsoft and Massachusetts Institute of Technology; David Savitt, University of Arizona.

A total of 4320 students from 577 colleges and universities in Canada and the United States participated in the Competition. There were teams from 431 institutions. More complete details will appear in the *American Mathematical Monthly*.

March 17, 2015 Leonard F. Klosinski, Director; Gerald L. Alexanderson and Mark Krusemeyer, Associate Directors