



# 2015 Colorado Mathematics Awards

*The 20th annual reception to recognize outstanding performance  
in national and international mathematics competitions  
by Colorado middle school, high school, and undergraduate college students.*

**Tuesday, May 12, 2015  
4:15 – 7:00 p.m.**

**Grant-Humphreys Mansion  
770 Pennsylvania Street  
Denver, Colorado**

## **Program**

**4:15 – 5:00**

**Refreshments**

**5:00 – 6:30**

**Welcome: Dr. Richard Gibbs, CMA Co-Chair and Emeritus Professor of Mathematics,  
Ft. Lewis College**

**Recognition of Underwriters: Dr. David Carlson, CMA Co-Chair; Policy Analyst,  
Colorado Dept. of Agriculture (retired); and Adjunct Faculty, Iliff School of Theology**

**Remarks: Ms. Rhonda Naylor, Past President, Colorado Council of Teachers of  
Mathematics, and CMA Steering Committee member**

**Presentation of Awards:**

- **MATHCOUNTS:** presented by Ms. Noelle Cochran, P.E., National Society of Professional Engineers of Colorado, and Colorado MATHCOUNTS Coordinator
- **American Mathematics Contest 8:** presented by Mr. Howard Selbst, Falcon Creek Middle School, Aurora (retired) and Colorado AMC 8 Director
- **American Mathematics Contests 10 and 12:** presented by Dr. Gibbs
- **Recognition of U.S.A. Mathematics Olympiad participants** by Dr. Gibbs
- **American Regions Mathematics League (ARML) Colorado Team:** presented by Ms. Silva Chang, Director, Colorado Math Circle, Dept. of Applied Mathematics, University of Colorado Boulder
- **Rocky Mountain MAA Section Burton W. Jones Distinguished Teaching Award** recipient, Prof. Janet Barnett, Colorado State University, recognized by Professor Bill Emerson, Section Governor, Mathematical Association of America
- **William Lowell Putnam Mathematical Competition, International Mathematical Contest in Modeling, and Interdisciplinary Contest in Modeling:** presented by Professor Emerson

**6:30 – 7:00**

**Refreshments**

## MATHCOUNTS

MATHCOUNTS is an after school program for 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> graders which leads to a series of three-hour competitions at school, chapter, state, and national levels. The top four students at the state competition represent their state at the national competition. In 2014-15, 40,000 students from 5300 schools participated in competitions nationwide, including more than 1000 students from over 130 schools in Colorado. The state MATHCOUNTS competition was held in March; 169 students from 60 schools participated. The national MATHCOUNTS competition was held May 7-10 in Boston.

### First Place Colorado Team (and Coaches)

**Zach Chapman, Sarah Gao, Austen Mazenko, and Derwin Wu**, Campus Middle School, Englewood (Amy Bainbridge and Andrew Ying)

### Colorado MATHCOUNTS Team (and Coaches)

**Austen Mazenko**, Campus Middle School, Englewood (Amy Bainbridge and Andrew Ying); **Anudeep Golla**, Southern Hills Middle School, Boulder (Matt McKay); **Sonia Chu**, Rocky Heights Middle School, Highlands Ranch (Erynn Bourdo and Christopher Gowing); and **Anjalie Kini**, Challenge School, Denver (Matt Bixby). Team Coach: Amy Bainbridge, Campus Middle School. *The Colorado team placed 27<sup>th</sup> in national MATHCOUNTS competition.*

### Honorable Mention (and Coaches)

**Sarah Gao, Rahul Thomas, and Derwin Wu**, Campus Middle School, Englewood (Amy Bainbridge and Andrew Ying; also Lisa Heaton for Rahul Thomas); **Nick Gerrans** and **Andrew Hageman**, McAuliffe International School, Denver (Graham Ray); and **Aditya Shankarling**, Stargate Charter School, Thornton (Ken Haney)

## American Mathematics Contest 8

The AMC 8 is a 40-minute 25-question multiple-choice exam given in November. Students in 8th grade and below are eligible. In 2014, over 114,000 students from more than 1,800 schools nationwide participated. In Colorado, over 1600 students from 25 schools participated.

### AMC 8--Top Colorado Individual Winners (and Coaches)

- (1) **Anjalie Kini**, Challenge School, Denver (Matt Bixby) **A perfect score!**
- (1) **Varun Roy**, Mountain Ridge Middle School, Colo. Springs (Christine Draper and Ming Song) **A perfect score!**
- (3) **Sonia Chu**, Rocky Heights Middle School, Highlands Ranch (Erynn Bourdo and Christopher Gowing)

6<sup>th</sup> Grade First Place: **Ryan Zhang**, Kinard Core Knowledge Middle School, Fort Collins (Cecilia Bonertz)

### Honorable Mention (and Coaches)

**Zach Chapman, Sarah Gao, Austen Mazenko, and Derwin Wu**, Campus Middle School, Englewood (Amy Bainbridge); **David Gao**, Mountain Ridge Middle School, Colorado Springs (Christine Draper and Ming Song); **Elia Gorokhovskiy** and **Suhana Zeutzius**, Summit Middle School, Boulder (Daniel Brown); **Andrew Hageman**, McAuliffe International School, Denver (Graham Ray); **Michael Hu**, Campus Middle School (Ming Song); **Dale Kim** and **Amber Liu**, Rocky Heights Middle School, Highlands Ranch (Christopher Gowing); **Emhyr Subramanian** and **Samantha Shellman**, Challenge School, Denver (Matt Bixby); **Cedar Turek**, Steamboat Springs Middle School (Norbert Turek); **Alan Yu**, Altona Middle School, Longmont (Tim Criger); and **Ryan Zhang**, Kinard Core Knowledge Middle School, Fort Collins (Cecilia Bonertz)

## American Mathematics Contests 10 and 12

Each contest is a 75-minute 25-question multiple-choice test with approximately 12 common problems between them. Students in grades 10 and below are eligible for the AMC 10; students in grades 12 and below are eligible for the AMC 12. The contests were administered in two versions on different days in February. In 2015 national participation rates were approximately 73,000 students from 3100 schools, and 66,000 students from 3200 schools, in AMC 10 and 12, respectively. Colorado's participation rates: over 3100 students from 49 schools (AMC 10) and more than 3200 students from 45 schools (AMC 12).

### AMC 10--Top Colorado Individual Winners (and Coaches)

- (1) **Avi Swartz**, Cherry Creek High School, Greenwood Village (Dotty Dady and Silva Chang) **A perfect score!**
- (2) **Hongyi Chen**, Fairview High School, Boulder (Silva Chang)
- (3) **Aaron Lou**, Highlands Ranch High School, Lone Tree (Anthony Verbsky and Silva Chang)

8<sup>th</sup> Grade First Place: **Austen Mazenko** (a 7<sup>th</sup> grader!), Campus Middle School, Englewood (Amy Bainbridge); and **Varun Roy**, Mountain Ridge Middle School, Colorado Springs (Christine Draper and Ming Song)

### AMC 10--Honorable Mention (and Coaches)

**Sonia Chu**, Rocky Heights Middle School, Highlands Ranch (Erynn Bourdo and Christopher Gowing); **Anjalie Kini**, Challenge School, Denver (Matt Bixby); **Nicholas Lin**, Fossil Ridge High School, Fort Collins (Martha Cranor); **Austen Mazenko**, Campus Middle School, Englewood (Amy Bainbridge); **Varun Roy**, Mountain Ridge Middle School, Colorado Springs (Christine Draper and Ming Song); **Isani Singh** and **Andrew Ying**, Cherry Creek High School, Greenwood Village (Dotty Dady); **Amy Wang**, Pine Creek High School, Colorado Springs (April Pierce and Ming Song); and **Ashley Wang** and **Stephanie Zhang**, Fairview High School, Boulder (Silva Chang)

### AMC 12—First Place Colorado Team (and Coaches)

**Christine Soh**, **Casey Zhang**, and **Hannah Zhang**, Fairview High School, Boulder (Aaron Hickman and Brad Arehart)

### AMC 12--Top Colorado Individual Winners (and Coaches)

- (1) **Ethan Coldren**, Fossil Ridge High School (Silva Chang)
- (2) **Casey Zhang**, Fairview High School, Boulder (Emily Silverman and Silva Chang)
- (3) **T.J. Leing**, Alexander Dawson School, Lafayette (Silva Chang)

10<sup>th</sup> Grade First Place: **Hannah Zhang** (a 9<sup>th</sup> grader!), Fairview High School, Boulder (Silva Chang)

### AMC 12--Honorable Mention (and Coaches)

**Lubin Deng** and **Won Jae Kim**, Cherry Creek High School, Greenwood Village (Dotty Dady); **Kristine Guo**, Peak to Peak Charter School, Lafayette (Anita Chakraborty-Spotts and Silva Chang); **Andrea Lin**, Fairview High School, Boulder (Silva Chang); **Christine Soh** and **Jesse Zhang**, Fairview High School, Boulder (Emily Silverman and Silva Chang); **Hannah Zhang**, Fairview High School, Boulder (Silva Chang); and **Scott Weygandt**, Niwot High School (Adria Repp and Silva Chang)

## American Regions Mathematics League (A-1 Team)

In 2014, 2200 students from the U.S. and five other countries formed 150 fifteen-member teams to compete at the national ARML competition. The Colorado A-1 team placed 6th in the Western Division and 28th nationally. This year's team members are listed below:

**Hongyi Chen**, **Jackson Chen**, **Christine Soh**, **Casey Zhang**, and **Jesse Zhang**, Fairview High School, Boulder; **Ethan Coldren**, Fossil Ridge High School, Fort Collins; **Lubin Deng** and **Avi Swartz**, Cherry Creek High School, Greenwood Village; **Kristine Guo**, Peak to Peak Charter School, Lafayette; **Drew Holthaus**, Rock Canyon High School, Littleton; **Anjalie Kini**, Challenge School, Denver; **T.J. Leing**, Alexander Dawson School, Lafayette; **Aaron Lou**, Highlands Ranch High School, Lone Tree; **Scott Weygandt**, Niwot High School; and **George Younger**, Colorado Academy, Denver. Team Coach: Ms. Silva Chang, Director, Colorado Math Circle, Dept. of Applied Mathematics, University of Colorado Boulder.

## American Invitational Mathematics Examination and the USA Math Olympiads

The *American Invitational Mathematics Examination* is a 3-hour 15-question examination with each answer a 3-digit number. Two versions of the exam were administered on different days in March to students achieving Honor Roll status on the AMC 10 or 12 exams. In 2015, nearly 4800 students nationwide participated in the AIME; 37 Colorado students participated this year.

The *USA Math Olympiad* and the *USA Junior Math Olympiad* are 9-hour 6-question essay examinations given in April to the top 500 or so students participating in the AMC 10 and 12 exams and the AIME. The top 6 USAMO students will comprise the USA team at the International Mathematical Olympiad to be held July 4-16 in Chiang Mai, Thailand. Nationally, 286 students were invited to take the USAMO exam, including one from Colorado. Nationally, 244 students qualified for the USAJMO exam, including three Colorado students:

USA Math Olympiad Qualifiers: **Jesse Zhang**, Fairview High School, Boulder (Emily Silverman and Silva Chang).

USA Junior Math Olympiad Qualifiers: **Hongyi Chen**, Fairview High School, Boulder (Silva Chang); **Aaron Lou**, Highlands Ranch High School, Lone Tree (Anthony Verbsky and Silva Chang), and **Avi Swartz**, Cherry Creek High School, Greenwood Village (Dotty Dady and Silva Chang). **Hongyi Chen** is a 9<sup>th</sup> grader!

## William Lowell Putnam Mathematical Competition

The *William Lowell Putnam Mathematical Competition* is a collegiate examination sponsored by the Mathematical Association of America. It is a 6-hour 12-question essay examination given on campus on the first Saturday in December. All undergraduates are eligible. In 2014, 4,320 students from 577 institutions participated nationwide. Students from 11 Colorado colleges and universities participated.

### Top 500 Colorado Individual Winners (and Coaches)

- (1) **Noah Blach**, U.S. Air Force Academy, Colorado Springs (Professor Kurt Herzinger)
- (2) **Carson Kent**, Colorado School of Mines, Golden (Professors Rebecca Swanson and Steve Pankavich)

## Mathematical Contest in Modeling (MCM)

The *Mathematical Contest in Modeling (MCM)* is an international contest for college undergraduates and high school students. Teams of three students worked for 96 hours over the weekend of February 5-9, using applied mathematics to solve their choice of one of two real-world problems. In 2015, solutions were submitted by 7636 teams from 18 countries; 418 teams were from the U.S. 16 teams from eight Colorado colleges and universities participated. ***Out of 7636 teams worldwide, 10 were Outstanding, including 3 from Colorado!***

### Outstanding Team, SIAM Prize Recipient, and Two Sigma Scholarship Award (\$10,000)

**Jordan Deitsch, Matthew Hurst, and Nathan Yeo**, CU-Boulder (Professors Bengt Fornberg and Anne Dougherty)

### Outstanding Team and INFORMS Prize Recipient

**Eleanore Campbell, Melissa Jay, and Nate Mankovich**, Colorado College, Colo. Springs (Professor Andrea Bruder)

### Outstanding Team (all freshmen!)

**Christine Reilly, Derek Gorthy, and Marc Thomson**, CU-Boulder (Professors Bengt Fornberg and Anne Dougherty)

## Interdisciplinary Contest in Modeling (ICM)

The *Interdisciplinary Contest in Modeling (ICM)* is an extension of the Mathematical Contest in Modeling (MCM). It is designed to develop and advance interdisciplinary problem-solving skills as well as competence in written communication. In 2015, solutions were submitted by 2137 teams from seven countries, including 45 teams from the U.S. Sixteen teams from eight Colorado colleges and universities participated. ***Out of 2137 teams worldwide, nine were Outstanding and 21 were Finalists, including one from Colorado!***

### Finalist Team

**Anna Johnsen, Brent Moran, and Michael Murphy**, CU-Denver (Professor Gary Olson)

# # # # # # # # # # # # # #

## Colorado Mathematics Awards Steering Committee Members and Contributors

**Dr. Richard Gibbs** and **Dr. David Carlson**, reception co-chairs; **Ms. Silva Chang**, Dept. of Applied Mathematics, University of Colorado Boulder; **Mr. Paul Gulman**, P.E., National Society of Professional Engineers of Colorado; **Ms. Rhonda Naylor**, Campus Middle School (retired) and Past President, Colorado Council of Teachers of Mathematics; **Mr. Mario Scacco**, Senior Structural Engineer, Stanley Consultants, Inc., Centennial; **Mr. Howard Selbst**, Falcon Creek Middle School (retired); and **Mr. Rocke Verser**, independent computer consultant. *Special thanks to Dr. David Larue (Colorado School of Mines) and Prof. Lou Talman (Metropolitan State University of Denver) for years of exemplary service on this Committee.*

**Benefactors (\$1,000 or more)**

*Dr. David Larue*

**Patrons (\$500-\$999)**

*American Mathematics Competitions (MAA) and the CMA Steering Committee*

**Supporters (\$100-\$499)**

*National Society of Professional Engineers-Colorado; Rocky Mountain Section of the Mathematical Association of America (MAA); and Stanley Consultants, Inc., Centennial*

Special thanks to: Arrow Awards, Phoenix, and Judy Lerner Catering, Denver.

**Contributions and other expressions of support for the Colorado Mathematics Awards (CMA) annual ceremony may be sent to: FLC Foundation, 1000 Rim Drive, Durango CO 81301-3911. Please write CO Math Awards on the memo line.**

*Pictures of students and teacher-coaches may be viewed at: <http://cma.coloradomath.org>.*