



# 2019 Colorado Mathematics Awards

*The 24<sup>th</sup> annual reception to recognize outstanding performance  
in national and international mathematics competitions and contests  
by Colorado middle school, high school, and undergraduate college students.*

**Tuesday, May 7, 2019**

**4:15 – 6:45 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 and Guests: Dr. David Carlson, CMA Co-Chair; Founder and  
Convener, Ethics and Ecological Economics Forum at the Iliff School of Theology**

**Remarks: Ms. Joanie Funderburk, President, Colorado Council of Teachers of Mathematics,  
and Director of Certified Facilitators at Illustrative Mathematics**

### **Presentation of Awards:**

- **MATHCOUNTS:** presented by Ms. Silva Chang, Director, Colorado Math Circle, and AMC 8 co-Editor-in-Chief, University of Colorado Boulder; and Mr. Howard Selbst, Falcon Creek Middle School, Aurora (retired) and Colorado AMC 8 Director
- **American Mathematics Competition 8:** presented by Mr. Selbst
- **American Mathematics Competitions 10 and 12:** presented by Mr. Raymond Johnson, Mathematics Content Specialist, Colorado Department of Education
- **U.S.A. Junior Mathematics Olympiad and U.S.A. Mathematics Olympiad:** Dr. Gibbs
- **American Regions Mathematics League Colorado Team 1:** presented by Ms. Chang
- **William Lowell Putnam Mathematical Competition and the International Mathematical Contest in Modeling:** Professor Alexander Hulpke, Colorado State University, and Chair, Mathematical Association of America, Rocky Mountain Section (MAA-RMS)
- **MAA-RMS Teaching Awards, recognized by Professor Hulpke:** Professor Travis Kowalski, South Dakota School of Mines, is the recipient of the Burton W. Jones Distinguished Teaching Award; and Professor Kenneth Monks, Front Range Community College, is the recipient of the Early Career Teaching Award

**6:30 – 6:45**

**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. Each year, approximately 140,000 students nationwide participate in school MATHCOUNTS competitions, with about 40,000 students participating at chapter competitions. The top four students at each state competition will represent their state at the national competition in Orlando, Florida on May 11-14. In 2018-19, 978 students from 125 schools in Colorado participated in chapter competitions, while 164 students from 55 schools participated at the state competition on March 23rd at the University of Denver.

### First Place Colorado Team (and Coaches)

**Max Xu, Anthony Chui, Alan Wang, and Jamie Kim**, Rocky Heights Middle School, Highlands Ranch (Christopher Gowing)

### Colorado MATHCOUNTS Team (and Coach)

**Ari Wang**, Mountain Ridge Middle School, Highlands Ranch (Christine Draper); **Srinivas Arun**, Campus Middle School, Greenwood Village (Christy Marini); **Jackson Dryg**, Preston Middle School, Ft. Collins (Roslyn Stern); **Rishi Rai**, Challenge School, Denver (Matt Bixby). Team Coach: Christopher Gowing

### Honorable Mention (and Coaches)

**Abhinav Krishna**, Challenge School, Denver (Matt Bixby); **Max Xu**, Rocky Heights Middle School, Highlands Ranch (Christopher Gowing); **Anthony Chui**, Rocky Heights Middle School (Christopher Gowing); **Charlie Flaxbeard**, Campus Middle School, Greenwood Village (Christy Marini); **Ethan Lou**, Campus Middle School (Christy Marini); **Rajeev Roy**, Mountain Ridge Middle School, Highlands Ranch (Christine Draper)

## American Mathematics Competition 8

The AMC 8 is a 40-minute 25-question multiple-choice exam was given on November 13, 2018. Students in 8th grade and below are eligible. Nationally, 98,448 students from 1844 schools nationwide participated.

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

- (1) **Jackson Dryg**, Preston Middle School, Ft. Collins (Roslyn Stern)
- (1) **Max Xu**, Rocky Heights Middle School, Highlands Ranch (Christopher Gowing)
- (3) **Ari Wang**, Mountain Ridge Middle School, Highlands Ranch (Christine Draper, Ming Song)

6<sup>th</sup> Grade First Place: **Abhinav Krishna**, Challenge School, Denver (Matt Bixby)

### Honorable Mention (and Coaches)

**Jeremy Huang**, Stargate Middle School, Thornton (Ken Haney); **Abhinav Krishna**, Challenge School, Denver (Matt Bixby); **Dani Blakeslee**, Challenge School (Matt Bixby); **Eric Wang**, Kinard Core Knowledge Middle School, Ft. Collins (Cecilia Bonertz); **Srinivas Arun**, Campus Middle School, Greenwood Village (Christy Marini); **Charlie Flaxbeard**, Campus Middle School (Christy Marini); **Angela Wu**, Altona Middle School, Longmont (Tim Criger); **Anthony Chui**, Rocky Heights Middle School, Highlands Ranch (Christopher Gowing); **Ethan Lou**, Campus Middle School (Christy Marini); **Rishi Rai**, Challenge School (Matt Bixby)

## American Mathematics Competitions 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 exam; students in grades 12 and below are eligible for the AMC 12 exam. Each contest was administered in different versions in 2019 on February 7<sup>th</sup> [10/12A] and February 13<sup>th</sup> [10/12B]. Nationally, 65,933 students took the 10A or 10B exam (or both); also, 53,583 students took the 12A or 12B exam (or both).

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

- (1) **Quinn Perian**, Homeschooled, Boulder (Naomi Perian)
- (2) **Brandon Dong**, Cherry Creek High School, Greenwood Village (Jim Padavic)
- (3) **Andrew Huycke**, Regis Jesuit High School, Aurora (Laura Jones)

\*\*Quinn is a 9<sup>th</sup> grader!

8<sup>th</sup> Grade First Place: **Rishi Rai**, Challenge School, Greenwood Village (Matt Bixby)

\*\*Rishi is a 7<sup>th</sup> grader!

## American Mathematics Competitions 10 and 12 (continued)

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

**Aiden Lee**, Cherry Creek High School, Greenwood Village (Jim Padavic); **Anthony Wang**, Rock Canyon High School, Highlands Ranch (Erynn Albert); **Kyle Wang**, Fairview High School, Boulder (Michelle Considine); **Rishi Rai**, Challenge School, Greenwood Village (Matt Bixby); **Grace Zhang**, Grandview High School, Aurora (Hilary Peters); **Srinivas Arun**, Campus Middle School, Greenwood Village (Jim Padavic); **Anthony Chui**, Rocky Heights Middle School, Highlands Ranch (Erynn Albert); **Ellie Greyson**, Cherry Creek High School (Jim Padavic); **Ari Wang**, Mountain Ridge Middle School, Highlands Ranch (Christine Draper, Ming Song)

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

**Austen Mazenko**, **Rahul Thomas**, and **Vatsal Shrivastava**, Cherry Creek High School, Greenwood Village (Jim Padavic)

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

- (1) **Austen Mazenko**, Cherry Creek High School, Greenwood Village (Jim Padavic)
- (1) **Rahul Thomas**, Cherry Creek High School, Greenwood Village (Jim Padavic)
- (3) **Cedar Turek**, Steamboat Springs High School, Steamboat Springs (Norbert Turek)

10<sup>th</sup> Grade First Place: **Rahul Thomas**, Cherry Creek High School, Greenwood Village (Jim Padavic)

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

**Anudeep Golla**, Fairview High School, Boulder (Michelle Considine); **Sonia Chu**, Rock Canyon High School, Highlands Ranch (Erynn Albert, Silva Chang, Ming Song); **Derek Li**, Cherry Creek High School, Greenwood Village (Jim Padavic); **Oscar Laird**, Silver Creek High School, Longmont (Carmen Rubino); **Vatsal Shrivastava**, Cherry Creek High School (Jim Padavic); **Amber Liu**, Rock Canyon High School (Erynn Albert); **Henry Cafaro**, Ft. Collins High School (Craig Luckhasen)

## American Regions Mathematics League

Each year about 2000 high school students from the U.S. and other countries form 15-member teams to compete at the national ARML competition. In June 2018, thirty-six students from seventeen different schools represented Colorado at the national competition. Colorado won 3rd place in the B Division and ranked 28th nationally out of 132 regional teams. This year's team members are listed below:

**Brandon Dong**, **Siddarth Ijju**, **Aiden Lee**, **Austen Mazenko**, and **Rahul Thomas**, Cherry Creek High School, Greenwood Village; **Anudeep Golla**, **Cynthia Lin**, **Rithwik Mylavaram**, and **Kyle Wang**, Fairview High School, Boulder; **Andrew Huycke**, Regis Jesuit High School, Aurora; **David Jordan**, Homeschooled, Ft. Collins; **Nina Ning**, Silver Creek High School, Longmont; **Quinn Perian**, Homeschooled, Boulder; **Cedar Turek**, Steamboat Springs High School, Steamboat Springs; **Anthony Wang**, Rock Canyon High School, Highlands Ranch. Team Coach: Silva Chang, Director, Colorado Math Circle, and AMC 8 co-Editor-in-Chief, 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 2018, 3956 students nationwide participated.

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; approximately 123,000 students participated in at least one of these exams nationwide. The top 6 USAMO students will comprise the USA team at the International Mathematical Olympiad to be held July 11-22 in Bath, United Kingdom. Nationally, 292 students were invited to take the USAMO exam, including two students from Colorado. Nationally, 235 students qualified for the USAJMO exam, including one from Colorado. Both exams were given on April 17-18, 2019.

USA Math Olympiad Qualifiers: **Austen Mazenko** and **Rahul Thomas**, Cherry Creek High School, Greenwood Village (Jim Padavic, Lawrence Dwyer).      \*\*Austen is a junior!    \*\*Rahul is a sophomore!

USA Junior Math Olympiad Qualifier: **Quinn Perian**, Homeschooled, Boulder (Naomi Perian)  
\*\*Quinn is a freshman!

## 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 2018, 4623 students from 568 institutions in the U.S. and Canada participated.

### Top 100 Individual Winners (and Coaches) from Colorado Institutions

- (1) **Hongyi Chen**, University of Colorado Boulder [ranking: 51.5] (Professor Jonathan Wise)      Hongyi is a freshman!
- (1) **Samuel Reinehr**, Colorado School of Mines [ranking: 51.5] (Professors Rebecca Swanson, Stephen Pankavich)
- (3) **Vladimir Vintu**, Colorado College [ranking: 87] (Professor Stefan Erickson)

## 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 work for 99 hours over a weekend (this year, January 24-28), using applied mathematics to solve their choice of one of three real-world problems. In 2019, solutions were submitted by 14,198 teams from 17 countries, including 270 teams from the U.S.

*\*\*Out of 14,198 teams worldwide, only 17 were Outstanding—including three from the University of Colorado Boulder!*

**Andrew Jeseritz, Scott Marin, and Vladimir Zhdanov** (Professors Anne Dougherty and Bengt Fornberg)

*\*\*This team also received 1 of 3 AMS (American Mathematical Society) Awards!*

**Brendan Palmer, David Stearns, and Aparajithan Venkateswaran** (Professors Anne Dougherty and Bengt Fornberg)

*\*\*This team also received 1 of 3 INFORMS (Institute for Operations Research & Management Sciences) Awards!*

**Ellen Considine, Suyog Soti, and Emily Webb** (Professors Anne Dougherty and Bengt Fornberg)

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## Colorado Mathematics Awards Steering Committee Members and Contributors

**Dr. David Carlson**, CMA Co-Chair and Founder, Ethics and Ecological Economics Forum at the Iliff School of Theology

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

**Ms. Silva Chang**, Director, Colorado Math Circle, and AMC 8 co-Editor-in-Chief, 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. Raymond Johnson**, Mathematics Content Specialist, Colorado Department of Education

**Mr. Howard Selbst**, Falcon Creek Middle School (retired)

**Mr. Rocke Verser**, independent computer consultant.

**Benefactors (\$1,000 or more)**      *Dr. David Larue [former Steering Committee member] and the McGraw-Hill Foundation*

**Patrons (\$500-\$999)**      *Rocky Mountain Section of the Mathematical Association of America (MAA)*

**Supporters (\$100-\$499)**      *CMA Steering Committee members*

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

**Contributions and other expressions of support for the Colorado Mathematics Awards (CMA) annual event 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>.*