

# 2017 Colorado Science and Engineering Fair Grand Awards Press Release

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## Junior Division Best CSEF Project

**First Place**  
Kathryn Kummel 8th grade  
*Gone with the Wind: The Horseshoe Vortex Behind Tree Islands on Pikes Peak & Impact on Tree Growth*  
North Middle School Colorado Springs

**Second Place**  
Scott Prieve 8th grade  
*To Rip or To Rap: How Does the Design of Erosion Control on a Creek Bend Affect Bank Deterioration?*  
North Middle School Colorado Springs

**Third Place**  
Henry Foisie 7th grade  
*Easy Peazy Piezo Power*  
The Classical Academy Colorado Springs

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## Senior Division Best CSEF Project

**First Place**  
Isani Singh 11th grade  
*Worse Outcomes in Turner Syndrome Women Compared to Women Without Turner Syndrome*  
Cherry Creek High School Englewood

**Second Place**  
Elliot Gorokhovskiy 12th grade  
*Adding Data-Aware Sort Optimizations to C-Python*  
Fairview High School Boulder

**Third Place**  
Molly Nehring 10th grade  
*Dancing with the Stars: Simulating Multi-Star Solar Systems & the Probability of Planetary Ejection*  
Monte Vista High School Monte Vista

**Fourth Place**  
Seth Young 12th grade  
*Applied Biomineralization: Increasing Magnetosome Formation in AMB-1 for Industrial Purposes Through Genetic Recombination of Genes Essential to Magnetosome Formation and Mutation Mediated by UV Radiation*  
The Classical Academy Colorado Springs

**Fifth Place**  
Aubrey Berger 11th grade  
*Mechanized Collection of Organic Spider Silk*  
Eaglecrest High School Centennial

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## Junior Division Animal Sciences

**First Place**  
Alexandra Dalton 8th grade  
*Lobelia vs. Daphnia*  
Peak to Peak Charter School Lafayette

**Second Place**  
Elishevlyne Eliason 8th grade  
*The Least of Us*  
Challenge School Denver

**Third Place**  
Camille Rawinski 7th grade  
*Do Female Quarter Horses Have Better Memory Than Males? Yay or Neigh?*  
Monte Vista Middle School Monte Vista

**Fourth Place**  
Michael Erwin & Carter Larsen 8th grade  
*Planarian Regeneration and Its Effect on Behavioral Memory Retention*  
Challenge School Denver

**Honorable Mention**  
Charlese Satterfield 7th grade  
*Bigger Eggs for Peanuts*  
Canon Exploratory School Canon City

**Honorable Mention**  
Libby Schelich 7th grade  
*Cup vs. Normal Incubation Showdown*  
Eaton Middle School Eaton

**Honorable Mention**  
Lilly Figueroa 6th grade  
*What in the Whorl!*  
Mancos Middle School Mancos

**Honorable Mention**  
Chelsey Hale 7th grade  
*Caution: Is Turf Toxic?*  
The Classical Academy Colorado Springs

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## Senior Division Animal Sciences

**First Place**  
Felix Channiago 10th grade  
*The Effect of Airborne Vibration on Sensory Hairs (Trichobothria) of Phidippus Jumping Spiders*  
Conifer High School Conifer

**Second Place**  
Amrita Purkayastha 11th grade  
*Role of Endothelin Receptor B in Vertebrate Pigment Cell Evolution*  
Fairview High School Boulder

**Third Place**  
Sydnee Roth 10th grade  
*Don't Stress Me Out!*  
Liberty School Joes

**Fourth Place**  
Elissa Velasquez 9th grade  
*Epi(c)genetics*  
Dolores Huerta Preparatory High School Pueblo

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## Junior Division Behavioral & Social Sciences

**First Place**  
Ellie Schueler 8th grade  
*Violence in the Media: An Analysis of the Effects of Media Violence on Mental and Physical Health*  
North Middle School Colorado Springs

# 2017 Colorado Science and Engineering Fair Grand Awards Press Release

## Second Place

Blakeley Bennett 8th grade  
*Got Color Cognition?*  
North Middle School Colorado Springs

## Third Place

Madison Hening 7th grade  
*The Effect of Music on Cardiovascular Physiology*  
St. Columba Catholic School Durango

## Fourth Place

Hayli Mackey 8th grade  
*The Effects of Cognitive Distraction on Reaction Times*  
Springfield Jr/Sr High School Springfield

## Honorable Mention

Sophia Murray 8th grade  
*Mind the Gap: Growth Mindset and Gender*  
Summit Charter Middle School Boulder

## Honorable Mention

Kristyn Cameron 8th grade  
*Is President Trump Correct About Attitudes Toward Immigration?*  
The Classical Academy Colorado Springs

## Honorable Mention

Ethan Pattison Shoop 7th grade  
*The Music of Typing*  
STEM High & Academy Highlands Ranch

## Honorable Mention

Sophie Eschallier 6th grade  
*Exercise: A Wonder of Science*  
Mancos Middle School Mancos

## Honorable Mention

Emma Stone & Reiley Leake 8th grade  
*Which Is the Fairest of Them All?*  
Brush Middle School Brush

## Honorable Mention

Isaac Fayram 8th grade  
*The Winning Touch*  
Blevins Middle School Fort Collins

## Senior Division Behavioral & Social Sciences

### First Place

Scott Litwiler 11th grade  
*Teenagers Texting While Driving: Computerized Eye Tracking as a Method to Assess Visual Distraction During Driving Simulations*  
Fairview High School Boulder

### Second Place

Tyler Giallanza 12th grade  
Andrew Ying 11th grade  
*Overcoming Cognitive Biases in Mathematical Finance: An Artificial Intelligence Approach*  
Cherry Creek High School Greenwood Village

## Third Place

Edwin Bodoni 10th grade  
Evelyn Bodoni 9th grade  
*Hearts Over Minds*  
Cherry Creek High School Greenwood Village

## Fourth Place

Sarah Davidson 11th grade  
*Differences in Functions of Proprioceptive Feedback Mechanisms: In Shod and Barefoot Conditions*  
Nederland Middle-Senior High School Nederland

## Honorable Mention

Angel Castillo 9th grade  
*"Extra" Focus*  
West Grand High School Kremmling

## Junior Division Chemistry & Biochemistry

### First Place

Grace Valentine 7th grade  
*The Effect of Cocoa Content, Cooling Time and Heating Temperature on the Tempering of Chocolate*  
Most Precious Blood Catholic School Denver

### Second Place

Kaydee Dodge 8th grade  
*Pumpkin Preservation Part 3: Evaluating Hazards of Petroleum Jelly as a Jack'o Lantern Preservative*  
Craver Middle School Colorado City

### Third Place

Kobi Hobert 8th grade  
*Iron Oxide*  
Turner Middle School Berthoud

### Fourth Place

Dustin Medina 8th grade  
*Plop-Plop Fizz-Fizz: How Does Surface Area and Temperature Affect Chemical Reaction Rates?*  
Corwin International Magnet School Pueblo

### Honorable Mention

Tyler Burt 8th grade  
*BPANIC?*  
North Arvada Middle School Arvada

### Honorable Mention

Ethan Hotz 8th grade  
*How Cool Is That Light?*  
Monte Vista Middle School Monte Vista

### Honorable Mention

Noah Randall 8th grade  
*Biodegradable Darts*  
Flagstaff Academy Longmont

### Honorable Mention

Kylea Roitsch 8th grade  
*Leaching Chemicals*  
The Classical Academy Colorado Springs

# 2017 Colorado Science and Engineering Fair

## Grand Awards Press Release

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### Senior Division Chemistry & Biochemistry

#### First Place

Kyle Fridberg 11th grade  
*A Novel Method of Producing Colloidal Gold Nanoparticles from Gold Ore and Aqueous Sulfuric Acid*  
 Fairview High School Boulder

#### Second Place

Katelynn Salmon 10th grade  
*Biodetoxification and Quantification of N-Nitrosamines by Symbiotaphrina kochii*  
 Palmer Ridge High School Monument

#### Third Place

Aliya Godoy 10th grade  
*Does Humidity of a Crime Scene Affect Transfer Quality of a Fingerprint?*  
 SkyView Academy Highlands Ranch

#### Fourth Place

Brendan Gould 9th grade  
*Going Bananas: Using Banana Peels in Polymerization Reactions to Produce Thermoplastics*  
 The Classical Academy Colorado Springs

#### Honorable Mention

Allen Olmedo Soto 12th grade  
*From Poop To Your Table*  
 Greeley West High School Greeley

#### Honorable Mention

Aaliyah Garcia 10th grade  
*Wildland Firefighter Defense System: Phase Two*  
 Center High School Center

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### Junior Division Earth & Space Sciences

#### First Place

Kathryn Kummel 8th grade  
*Gone with the Wind: The Horseshoe Vortex Behind Tree Islands on Pikes Peak & Impact on Tree Growth*  
 North Middle School Colorado Springs

#### Second Place

Joshua Miller 8th grade  
*Effect of Sand Grain Size on Supportiveness of a Structure During a Liquefaction Event*  
 Skinner Middle School Denver

#### Third Place

Tommy Pope 7th grade  
*Slippery Slope: A Study on Erosion Control Methods*  
 St. Columba Catholic School Durango

#### Fourth Place

Sam Haggans 8th grade  
*Does Position Matter? Testing Different Layouts of Erosion Barriers in a Stream Bed*  
 Summit Charter Middle School Boulder

#### Honorable Mention

Adrian Pizano 8th grade  
*Testing the Waters*  
 Rocky Ford Jr/Sr High School Rocky Ford

#### Honorable Mention

Raja Braford 8th grade  
 Belen Roof 7th grade  
*Let It Snow*  
 Silverton Schools Silverton

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### Senior Division Earth & Space Sciences

#### First Place

Jenna Salvat 10th grade  
*Characterization of the Pyroelectric and Piezoelectric Effect Exhibited by Alpha-Crystalline Silicon Dioxide: Potential Application as a Micro-Thermovoltic Transducer*  
 Coronado High School Colorado Springs

#### Second Place

Adrienne Jones 11th grade  
*Borax Crystal Growth Response to Environmental Audio Variables*  
 Trinidad High School Trinidad

#### Third Place

Rain Orsi 9th grade  
*Is Your Faith in Fracking Shaken?*  
 Rocky Mountain High School Fort Collins

#### Fourth Place

Leo Foster Greer 12th grade  
*Harvest Project: Correcting Sea State Bias*  
 Boulder High School Boulder

#### Honorable Mention

Kate DeMarsh & Madison Bohling 12th grade  
*Cape Verde Hurricanes: How Genesis Point Impacts Landfall Latitude*  
 Monarch High School Louisville

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### Junior Division Energy

#### First Place

Henry Foisie 7th grade  
*Easy Peazy Piezo Power*  
 The Classical Academy Colorado Springs

#### Second Place

Alex Tseng 7th grade  
*Which Waste Shouldn't Be Wasted?*  
 Stanley British Primary School Denver

#### Third Place

Hailey Melvin 6th grade  
*Can You Make an Alternate Fuel Out of Food?*  
 Dolores Middle School Dolores

#### Fourth Place

Cooper Hanley 8th grade  
*Can You Generate Electricity By Moving?*  
 Louisville Middle School Louisville

# 2017 Colorado Science and Engineering Fair Grand Awards Press Release

## Honorable Mention

Payton Brown 8th grade  
*Hemp Hemp Hooray*  
 Sargent Jr/Sr High School Monte Vista

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## Senior Division Energy

### First Place

Jay Chandra 11th grade  
*Carbon Coatings on a Copper Antimonide Anode for Enhanced Performance and Lifetime in Rechargeable Metal-Ion Batteries*  
 Fossil Ridge High School Fort Collins

### Second Place

Ashley Aguilar 12th grade  
*Converting Mechanical Vibrations into Electrical Energy Via Dielectric Elastomer Generators (DEGs)*  
 New Vista High School Boulder

### Third Place

Claire Victor 12th grade  
*Renewable Hydrogen and Fuel Cells: The Future of Energy*  
 Centaurus High School Lafayette

### Fourth Place

Max Markuson DiPrince 11th grade  
*Windmill Efficiency Part 2: Replicating & 3D Printing Natural Leaf Designs on a Vertical-axis Turbine*  
 Central High School Pueblo

## Honorable Mention

Daniel Orbidan & Ethan Simpson 10th grade  
*The Impact of Rutile Phase Titania Nanowire Length on Periphyton Colonization and Voltage Output*  
 SkyView Academy HighlandsRanch

## Honorable Mention

Michelle Ren & Julianna O'Clair 10th grade  
*Energy Production of Microbial Fuel Cells*  
 Brush High School Brush

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## Junior Division Engineering

### First Place

Marissa Jordan 8th grade  
*A Softer Side of Robots: Using Grippers Made From Soft Materials*  
 Home School Ignacio

### Second Place

Ellie Clark 7th grade  
*Fabric Nanofinishing: Adventures in Textile Engineering*  
 St. Columba Catholic School Durango

### Third Place

Tate Schrock 7th grade  
*H2 and O2 Generator Fabrication & PEM Fuel Cell Efficiency*  
 Arickaree School Anton

## Fourth Place

Allison Rose 7th grade  
*Engineering Design of an Improved Grasper for Eating Cheesy-Sticky Snacks*  
 The Classical Academy Colorado Springs

## Honorable Mention

Kylie Walters 7th grade  
*The Blind Side*  
 The Classical Academy Colorado Springs

## Honorable Mention

Alden Kruse 8th grade  
*Into Thin Air: A Search for Microbes in the Stratosphere*  
 Home School Colorado Springs

## Honorable Mention

Samuel Uyemura 8th grade  
*The Future of Flight*  
 Buchanan Middle School Wray

## Honorable Mention

Nicholas Huber 7th grade  
*Solar Still Design Efficiency*  
 St. Columba Catholic School Durango

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## Senior Division Engineering

### First Place

Aubrey Berger 11th grade  
*Mechanized Collection of Organic Spider Silk*  
 Eaglecrest High School Centennial

### Second Place

Anurag Golla 12th grade  
*Motility Optimization of the PNIPAm Based Drug Delivery System*  
 Fairview High School Boulder

### Third Place

Isaac Jordan 11th grade  
*A Novel Approach for Sensing Seismic Events: Applications of Graphene Nano-flake Powder Composites*  
 Animas High School Durango

### Fourth Place

Amy Nguyen & Katherine Tran 9th grade  
*Let It Flow: Developments of a New Two-Leaflet Bovine Tissue Mitral Valve Replacement*  
 DSST: College View High School Denver

## Honorable Mention

Chase Cromwell 9th grade  
*Stampede Arm*  
 Lamar High School Lamar

## Honorable Mention

Krithik Ramesh 9th grade  
*Redesigning the Jet Engine to be Impervious to Foreign Contaminants: Part Two*  
 Cherry Creek High School Greenwood Village

# 2017 Colorado Science and Engineering Fair

## Grand Awards Press Release

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### Junior Division Environmental Sciences

**First Place**  
 Scott Prieve 8th grade  
*To Rip or To Rap: How Does the Design of Erosion Control on a Creek Bend Affect Bank Deterioration?*  
 North Middle School Colorado Springs

**Second Place**  
 Nathaniel Brim 8th grade  
*Depuration Kinetics of Activated Carbon with Ion Exchange Resins, Poly Filter Pad, and Freshwater Bivalves in Aqueous Solutions contaminated with Heavy Metals*  
 The Classical Academy Colorado Springs

**Third Place**  
 Kaleb Andreatta 8th grade  
 Cavin McCay 7th grade  
*Enhancing the Survival of Microinvertebrates in Rural Waste Water Treatment Plants*  
 La Veta Schools La Veta

**Fourth Place**  
 Grace Ramsey 7th grade  
*Worming Around With Compost*  
 Windsor Charter Academy Windsor

**Honorable Mention**  
 Grace Romero 8th grade  
*The Effect Water Pollutants Have on Vegetation*  
 Aspen Middle School Aspen

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### Senior Division Environmental Sciences

**First Place**  
 Alyssa Rawinski 10th grade  
*Western Snowy Plover Nest Site Characteristics and Use of Drone Imagery in Predicting Potential Nesting Habitat*  
 Monte Vista High School Monte Vista

**Second Place**  
 Eric Bear 11th grade  
*Determining Water Treatment Planning Using a Classification Model Neural Network*  
 Colorado Academy Denver

**Third Place**  
 Mitchell Fosdick 12th grade  
*The Uptake of Copper Ions by Chlorella Vulgaris*  
 Fowler High School Fowler

**Fourth Place**  
 Max Warnock 9th grade  
*The Impact of Odor Control Clothing on Water Boatmen (Corixidae)*  
 Poudre Global Academy Fort Collins

**Honorable Mention**  
 Michael Savala 10th grade  
*Ferro-Solution? Can Iron Nanoparticles Help with Oil Spill Clean-up?*  
 Monte Vista High School Monte Vista

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### Junior Division Math & Computer Sciences

**First Place**  
 Sara Nehring 8th grade  
*Over the Hill and Through the Codes to Encryption and Decryption We Go!*  
 Monte Vista Middle School Monte Vista

**Second Place**  
 Charles Rothbaum 8th grade  
*Learning Robots*  
 Corwin International Magnet School Pueblo

**Third Place**  
 Elizabeth Sundheim 8th grade  
*Monte Python and the Search for the Perfect Plinko Placement*  
 St. John the Evangelist Catholic School Loveland

**Fourth Place**  
 Jack Balaguer 8th grade  
*Rally Time: The Effects of Psychological Momentum in Baseball*  
 Summit Charter Middle School Boulder

**Honorable Mention**  
 Jeffery Knutson 7th grade  
*Behind the Screen (of Gaming)*  
 Manzanola Junior High School Manzanola

**Honorable Mention**  
 Shreyas Sriram 7th grade  
*Designing a Crowd-Sourced Weather Alert System*  
 Challenge School Denver

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### Senior Division Math & Computer Sciences

**First Place**  
 Elliot Gorokhovskiy 12th grade  
*Adding Data-Aware Sort Optimizations to C-Python*  
 Fairview High School Boulder

**Second Place**  
 Elia Gorokhovskiy 10th grade  
*A Method for the Reduction of Time Error in the Ensemble Adjustment Kalman Filter*  
 Fairview High School Boulder

**Third Place**  
 Daniel Zamoshchin 9th grade  
*Predicting Clickbait Headlines Using Machine Learning and the Naive Bayes Classifier*  
 Cherry Creek High School Greenwood Village

**Fourth Place**  
 Stephanie Zhang 11th grade  
*Gene Expression and Diseases Phase II: Developing a Model to Predict Cancer Progression*  
 Fairview High School Boulder

# 2017 Colorado Science and Engineering Fair Grand Awards Press Release

## Honorable Mention

Colin Burdine 12th grade  
*Determining the Complexity of Boolean Formulae Modeling NP Decision Problems*  
 Cherry Creek High School Greenwood Village

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## Junior Division Medicine & Health

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### First Place

Jason Cui 7th grade  
*Powerful Natural Antibiotics*  
 Southern Hills Middle School Boulder

### Second Place

Lauren Linnebur & Malayne Perry 7th grade  
*Student Health Literacy and Snack Consumption in Elementary and Middle Schools*  
 Liberty Middle School Aurora

### Third Place

Charlotte Granrud 7th grade  
*Which Sunscreen Provides the Most Protection from Harmful Sun Rays?*  
 Frontier Academy Greeley

### Fourth Place

Evie Upchurch 7th grade  
*Nice Ice?*  
 The Classical Academy Colorado Springs

## Honorable Mention

Colleen Farrell 7th grade  
*Hidden Dangers of the Doctor's Office*  
 Eagle County Charter Academy Edwards

## Honorable Mention

Juliana Kelley 8th grade  
*Organic: "Can" It Be Better?*  
 Pueblo School for Arts & Sciences Pueblo

## Honorable Mention

D'Neil Doyle 8th grade  
*Dangerous Temptations*  
 Walsh Jr/Sr High School Walsh

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## Senior Division Medicine & Health

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### First Place

Isani Singh 11th grade  
*Worse Outcomes in Turner Syndrome Women Compared to Women Without Turner Syndrome*  
 Cherry Creek High School Englewood

### Second Place

Ibrohim Nosirov 9th grade  
*Use of SPECT Imagery to Establish a General Statistical Predictive Model for Dementia*  
 SkyView Academy Highlands Ranch

### Third Place

Hari Sowrirajan 11th grade  
*Optimization of Zinc Oxide Nanoparticles for Vaccine Delivery*  
 Cherry Creek High School Greenwood Village

## Fourth Place

Chelsea Wang 11th grade  
*Alterations in Sleep Architecture Resulting from Amygdala Kindling in Mice*  
 Fossil Ridge High School Fort Collins

## Honorable Mention

Solomon Bloomfield 11th grade  
*Amph-1 Knockdown Aggravates Pathogenesis of Alzheimer's Disease in *Caenorhabditis Elegans**  
 Fairview High School Boulder

## Honorable Mention

Katherine Larson 11th grade  
*Electrical Impedance Tomography as a Tool for Detecting Tumors*  
 Home School Colorado Springs

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## Junior Division Microbiology & Molecular Biology

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### First Place

Anjali Chaparala 8th grade  
*Gut Less Sugar*  
 The Classical Academy Colorado Springs

### Second Place

Anika Fergusson 8th grade  
*pH and Probiotics: Is Traditional Yogurt Better?*  
 Summit Charter Middle School Boulder

### Third Place

Maya Monks & Annika Reeder-Holman 7th grade  
*Effect of Teeth Brushing and Chewies on Canine Oral Bacterial Count*  
 Stanley British Primary School Denver

### Fourth Place

Jocelynn Elizabeth King 7th grade  
*Farm vs Pharmacy*  
 Challenge School Denver

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## Senior Division Microbiology & Molecular Biology

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### First Place

Seth Young 12th grade  
*Applied Biomineralization*  
 The Classical Academy Colorado Springs

### Second Place

Peyton Leyendecker 9th grade  
*Manuka Honey Surgical Adhesive*  
 SkyView Academy Highlands Ranch

### Third Place

Kaitlyn Carson 12th grade  
*The Effects of Wash Water Temperature on Egg Shell Permeability*  
 Windsor High School Windsor

### Fourth Place

Cassidy Plane 12th grade  
*Can This Macromolecule Captivate Your Miroorganisms?*  
 Alamosa High School Alamosa

# 2017 Colorado Science and Engineering Fair Grand Awards Press Release

## Honorable Mention

Elora Smith 10th grade  
*That Gut Feeling: Identifying the Gut Microboita in Different Groups of Children*  
Sargent Jr/Sr High School Monte Vista

## Honorable Mention

Avi Swartz 12th grade  
*Statistical Analysis of Graft vs. Host Disease and Immune Reconstitution in Humanized Mice*  
Cherry Creek High School Greenwood Village

## Honorable Mention

Sarah Danekind & Tesla Newton 12th grade  
*Cultivation of Soil Bacteria Across Stress Gradients*  
Monarch High School Louisville

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## Junior Division Physics

**First Place**  
Corey Schanker 8th grade  
*Kinetic Energy*  
Turner Middle School Berthoud

**Second Place**  
Olivia Greene 7th grade  
*The Need for Speed*  
The Classical Academy Colorado Springs

**Third Place**  
Xander Duvall 6th grade  
*Magnetic Effects on Subatomic Particles*  
Thomas MacLaren School Colorado Springs

**Fourth Place**  
Alyssa Lee 8th grade  
*The Physics of Flying: G-Forces in Aerial Dance*  
Summit Charter Middle School Boulder

**Honorable Mention**  
Matthew Anderson 7th grade  
*How the Percentage of Alpha Particles Shielded Changes with Different Types of Shielding*  
Challenge School Denver

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## Senior Division Physics

**First Place**  
Molly Nehring 10th grade  
*Dancing with the Stars: Simulating Multi-Star Solar Systems & the Probability of Planetary Ejection*  
Monte Vista High School Monte Vista

**Second Place**  
Katie Gorsline 11th grade  
*Friction and Penetration*  
Greeley West High School Greeley

**Third Place**  
Sai Kaushik Yeturu 12th grade  
*A Bio-inspired Saddle Mechanism for Mechanical Energy Storage*  
Peak to Peak Charter School Lafayette

**Fourth Place**  
Christoph Cikraji 12th grade  
*Artificial Gravity Concept for Sustainable Space*  
Durango High School Durango

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## Junior Division Plant Sciences

**First Place**  
Anuradha Prakash 8th grade  
*Pee Is for Plants*  
Summit Charter Middle School Boulder

**Second Place**  
Elias Arredondo 6th grade  
*Fish Fertilizer: The Correlation Between Fish and Foliage*  
Monte Vista On-line Academy Monte Vista

**Third Place**  
Sofia Bader 8th grade  
*Build the Swamp*  
Miller Middle School Durango

**Fourth Place**  
Parker Stone 6th grade  
*Get It Ripe*  
Beaver Valley Elementary School Brush

**Honorable Mention**  
Sarah Duzenack 8th grade  
*A Comparison of Endomycorrhizae and Commercial Fertilizer on Fodder Crops: Year 3*  
La Veta Schools La Veta

**Honorable Mention**  
Caleb Riggenschach 8th grade  
*The Little Things in Life A Study on Microorganisms*  
Monte Vista Middle School Monte Vista

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## Senior Division Plant Sciences

**First Place**  
Michelle Kummel 11th grade  
*Microclimatological Feedbacks at Treeline*  
Palmer High School Colorado Springs

**Second Place**  
Isabella Bowland 11th grade  
*Bad Altitude: Climate Change in the Alpine May Alter Beneficial Plant-Fungal Relationships*  
Fairview High School Boulder

**Third Place**  
Casey Shaw 11th grade  
*Make Way for Duckweed: Observing the Growth Rates of Lemna and its Effect on Atmospheric Carbon Dioxide Concentrations in a Simulated Carbon Sink*  
Liberty School Joes

**Fourth Place**  
Parker Randolph 10th grade  
*Examining the Effects of Martian Soil, Additives, Water Quality, and Companion Planting on Biomass a*  
Monte Vista High School Monte Vista

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

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## CSEF Awards

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### *Poster Art Contest*

Angel Castillo 9th grade  
\$100, certificate  
West Grand High School Kremmling

### *Elemer Bernath Technical Writing Award*

Anika Fergusson 8th grade  
\$100, certificate  
Summit Charter Middle School Boulder  
*pH and Probiotics: Is Traditional Yogurt Better?*

### *Ralph Desch Memorial Technical Writing Award*

Elia Gorokhovskiy 10th grade  
\$100, certificate  
Fairview High School Boulder  
*A Method for the Reduction of Time Error in the Ensemble Adjustment Kalman Filter*

### *Student Choice Award*

Kathryn Kummel 8th grade  
\$100, trophy, certificate  
North Middle School Colorado Springs  
*Gone with the Wind: The Horseshoe Vortex Behind Tree Islands on Pikes Peak & Impact on Tree Growth*

Seth Young 12th grade  
\$100, trophy, certificate  
The Classical Academy Colorado Springs  
*Applied Biomineralization: Increasing Magnetosome Formation in AMB-1 for Industrial Purposes Through Genetic Recombination of Genes Essential to Magnetosome Formation and Mutation Mediated by UV Radiation*

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## Pioneers of Science Awards

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### *Temple Grandin Award*

Katelyn Carpenter 7th grade  
\$50, certificate, poster of pioneer scientist  
Dolores Middle School Dolores  
*Bite*

### *Sigmund Freud Award*

Sophie Eschallier 6th grade  
\$50, certificate, poster of pioneer scientist  
Mancos Middle School Mancos  
*Exercise: A Wonder of Science*

### *Margaret Mead Award*

Chance Hill 6th grade  
\$50, certificate, poster of pioneer scientist  
Walt Clark Middle School Loveland  
*The Stroop Effect*

### *John Dalton Award*

Kaydee Dodge 8th grade  
\$50, certificate, poster of pioneer scientist  
Craver Middle School Colorado City  
*Pumpkin Preservation Part 3: Evaluating Hazards of Petroleum Jelly as a Jack'o Lantern Preservative*

### *Edwin Hubble Award*

Adrian Pizano 8th grade  
\$50, certificate, poster of pioneer scientist  
Rocky Ford Jr/Sr High School Rocky Ford  
*Testing the Waters*

### *Christa McAuliffe Award*

Kadence Kunselman 7th grade  
\$50, certificate, poster of pioneer scientist  
Walsh Jr/Sr High School Walsh  
*I've Got the Power*

### *Hedy Lamarr Award*

Leighton Burt 12th grade  
\$50, certificate, poster of pioneer scientist  
Sargent Jr/Sr High School Monte Vista  
*Life Saving Locating: Developing Autonomous Avalanche Rescue Part 3*

### *Nicola Tesla Award*

Ellie Clark 7th grade  
\$50, certificate, poster of pioneer scientist  
St. Columba Catholic School Durango  
*Fabric Nanofinishing: Adventures in Textile Engineering*

### *Rachel Louise Carson Award*

Paul Knight 8th grade  
\$50, certificate, poster of pioneer scientist  
Miller Middle School Durango  
*Tidy Up Those Tailings*

### *Gifford Pinchot Award*

Eden Sears 8th grade  
\$50, certificate, poster of pioneer scientist  
Liberty School Joes  
*Ripples in the Water*

### *Ada Lovelace Award*

Elizabeth Sundheim 8th grade  
\$50, certificate, poster of pioneer scientist  
St. John the Evangelist Catholic School Loveland  
*Monte Python and the Search for the Perfect Plinko Placement*

### *Grace Hopper*

Jeffery Knutson 7th grade  
\$50, certificate, poster of pioneer scientist  
Manzanola Junior High School Manzanola  
*Behind the Screen (of Gaming)*



# 2017 Colorado Science and Engineering Fair Special Awards Press Release

## *Elizabeth Blackwell Award*

D'Neil Doyle 8th grade  
\$50, certificate, poster of pioneer scientist  
Walsh Jr/Sr High School Walsh  
*Dangerous Temptations*

## *G. V. Black Award*

Sarah-Cate Ogden 8th grade  
\$50, certificate, poster of pioneer scientist  
Eaton Middle School Eaton  
*Fat Cat*

## *Louis Pasteur Award*

Anika Fergusson 8th grade  
\$50, certificate, poster of pioneer scientist  
Summit Charter Middle School Boulder  
*pH and Probiotics: Is Traditional Yogurt Better?*

## *Albert von Szent-Gyorgyi Award*

Thomas Ferrell 6th grade  
\$50, certificate, poster of pioneer scientist  
Home School Durango  
*Learning Physics Using a Pendulum and an Arduino*

## *Luther Burbank Award*

Anuradha Prakash 8th grade  
\$50, certificate, poster of pioneer scientist  
Summit Charter Middle School Boulder  
*Pee Is for Plants*

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## **Organizational Awards**

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### **Air & Waste Management Association Rocky Mountain Section**

#### *Air & Waste Management Award*

Kathryn Kummel 8th grade  
\$50  
North Middle School Colorado Springs  
*Gone with the Wind: The Horseshoe Vortex Behind Tree  
Islands on Pikes Peak & Impact on Tree Growth*

Kody Donnelson 6th grade  
\$100  
Fleming Middle School Fleming  
*Marble, Marble, Everywhere and What an Acid Rain Drop Will  
Do*

Max Warnock 9th grade  
\$50  
Poudre Global Academy Fort Collins  
*The Impact of Odor Control Clothing on Water Boatmen  
(Corixidae)*

Nathaniel Miner & Drake Ludgate 10th grade  
\$100  
Brush High School Brush  
*Black Carbon Detection: A Regional Snow Survey*

## **American Association of University Women**

### *AAUW Award for Women in STEM*

Kaydee Dodge 8th grade  
\$100  
Craver Middle School Colorado City  
*Pumpkin Preservation Part 3: Evaluating Hazards of  
Petroleum Jelly as a Jack'o Lantern Preservative*

Aaliyah Garcia 10th grade  
\$100  
Center High School Center  
*Wildland Firefighter Defense System: Phase Two*

## **American Chemical Society**

### **Colorado Local Section**

#### *ACS Award*

Tyler Burt 8th grade  
\$50  
North Arvada Middle School Arvada  
*BPANIC?*

Dustin Medina 8th grade  
\$50  
Corwin International Magnet School Pueblo  
*Plop-Plop Fizz-Fizz: How Does Surface Area and Temperature  
Affect Chemical Reaction Rates?*

Noah Randall 8th grade  
\$50  
Flagstaff Academy Longmont  
*Biodegradable Darts*

Grace Valentine 7th grade  
\$50  
Most Precious Blood Catholic Denver  
*The Effect of Cocoa Content, Cooling Time and Heating  
Temperature on the Tempering of Chocolate*

Ethan Hotz 8th grade  
\$150  
Monte Vista Middle School Monte Vista  
*How Cool Is That Light?*

Kylie Franklin & Lauren Wood 11th grade  
\$50  
Campo School Campo  
*It's Electro...phoresis!*

Katelynn Salmon 10th grade  
\$50  
Palmer Ridge High School Monument  
*Biodetoxification and Quantification of N-Nitrosamines by  
Symbiotaphrina kochii*

Danae Beauprez 10th grade  
\$50  
Yuma High School Yuma  
*Dying To Know: How Quickly Does Hair Dye Leach Out?*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

Joshua Chapman 12th grade  
\$50  
Cherry Creek High School Greenwood Village  
*General Formula for Deriving Reaction Rate Constants*

Kyle Fridberg 11th grade  
\$150  
Fairview High School Boulder  
*A Novel Method of Producing Colloidal Gold Nanoparticles from Gold Ore and Aqueous Sulfuric Acid*

## American Industrial Hygiene Association Rocky Mountain Section *Excellence in Protection of Health and the Environment Award*

Mindi Carr 8th grade  
\$50  
Genoa-Hugo School Hugo  
*Deep Knee Bends*

Aaliyah Garcia 10th grade  
\$200  
Center High School Center  
*Wildland Firefighter Defense System: Phase Two*

## American Institute of Aeronautics & Astronautics Rocky Mountain Section

### *Excellence in Aeronautics & Astronautics Award*

Tate Schrock 7th grade  
certificate, Arduino kit, 1 year AIAA student membership  
Arickaree School Anton  
*H2 and O2 Generator Fabrication & PEM Fuel Cell Efficiency*

Alden Kruse 8th grade  
certificate, Arduino kit, 1 year AIAA student membership  
Home School Colorado Springs  
*Into Thin Air: A Search for Microbes in the Stratosphere*

Molly Nehring 10th grade  
certificate, Arduino kit, 1 year AIAA student membership  
Monte Vista High School Monte Vista  
*Dancing with the Stars: Simulating Multi-Star Solar Systems & the Probability of Planetary Ejection*

Aubrey Berger 11th grade  
certificate, Arduino kit, 1 year AIAA student membership  
Eaglecrest High School Centennial  
*Mechanized Collection of Organic Spider Silk*

## American Institute of Chemical Engineers Rocky Mountain Section

### *Excellence in Chemical Engineering Award*

Dustin Medina 8th grade  
\$75  
Corwin International Magnet School Pueblo  
*Plop-Plop Fizz-Fizz: How Does Surface Area and Temperature Affect Chemical Reaction Rates?*

Nathaniel Brim 8th grade  
\$100  
The Classical Academy Colorado Springs  
*Depuration Kinetics of Activated Carbon With Ion Exchange Resins, Poly Filter Pad, and Freshwater Bivalves in Aqueous Solutions contaminated with Heavy Metals*

Brendan Gould 9th grade  
\$75  
The Classical Academy Colorado Springs  
*Going Bananas: Using Banana Peels in Polymerization Reactions to Produce Thermoplastics*

Michael Savala 10th grade  
\$100  
Monte Vista High School Monte Vista  
*Ferro-Solution? Can Iron Nanoparticles Help with Oil Spill Clean-up?*

## American Institute of Professional Geologists Colorado Section

### *AIPG Certificate of Excellence in the Geosciences*

Nathaniel Brim 8th grade  
\$50  
The Classical Academy Colorado Springs  
*Depuration Kinetics of Activated Carbon with Ion Exchange Resins, Poly Filter Pad, and Freshwater Bivalves in Aqueous Solutions contaminated with Heavy Metals*

Scott Prieve 8th grade  
\$100  
North Middle School Colorado Springs  
*To Rip or To Rap: How Does the Design of Erosion Control on a Creek Bend Affect Bank Deterioration?*

Isaac Jordan 11th grade  
\$50  
Animas High School Durango  
*A Novel Approach for Sensing Seismic Events: Applications of Graphene Nano-flake Powder Composites*

Kyle Fridberg 11th grade  
\$100  
Fairview High School Boulder  
*A Novel Method of Producing Colloidal Gold Nanoparticles from Gold Ore and Aqueous Sulfuric Acid*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

## American Meteorological Society Denver/Boulder Chapter

### *Award for Excellence in Atmospheric Science*

Kathryn Kummel 8th grade  
gift certificate, certificate  
North Middle School Colorado Springs  
*Gone with the Wind: The Horseshoe Vortex Behind Tree  
Islands on Pikes Peak & Impact on Tree Growth*

Kate DeMarsh & Madison Bohling 12th grade  
gift certificate, certificate  
Monarch High School Louisville  
*Cape Verde Hurricanes: How Genesis Point Impacts Landfall  
Latitude*

## American Public Power Association & Platte River Power Authority

### *Special Award for Demonstration of Energy & Efficiency Development*

Juno Gregg 7th grade  
\$100  
Skinner Middle School Denver  
*The Effect of Electricity's Fields on the Strength of an  
Electromagnet*

Claire Victor 12th grade  
\$150  
Centaurus High School Lafayette  
*Renewable Hydrogen and Fuel Cells: The Future of Energy*

### *Special Award for Environmental Innovation*

Rewa Raizada 7th grade  
\$100  
STEM High & Academy Highlands Ranch  
*Water Conservation Using SMART Technology*

Jay Chandra 11th grade  
\$150  
Fossil Ridge High School Fort Collins  
*Carbon Coatings on a Copper Antimonide Anode for Enhanced  
Performance and Lifetime in Rechargeable Metal-Ion Batteries*

## American Statistical Association Colorado/Wyoming Chapter David Young Memorial Award

Matthew Anderson 7th grade  
\$200, student membership in American Statistical Association,  
acknowledgement at chapter spring meeting and on chapter  
web site  
Challenge School Denver  
*How the Percentage of Alpha Particles Shielded Changes with  
Different Types of Shielding*

Isani Singh 11th grade  
\$200, student membership in American Statistical Association,  
acknowledgement at chapter spring meeting and on chapter  
web site  
Cherry Creek High School Englewood  
*Worse Outcomes in Turner Syndrome Women Compared to  
Women without Turner Syndrome*

## American Vacuum Society Rocky Mountain Chapter

### *Excellence in Physical Sciences & Engineering Award*

Kylea Roitsch 8th grade  
\$50, \$50 matching award to teacher/sponsor  
The Classical Academy Colorado Springs  
*Leaching Chemicals*

Xander Duvall 6th grade  
\$100, \$100 matching award to teacher/Sponsor  
Thomas MacLaren School Colorado Springs  
*Magnetic Effects on Subatomic Particles*

Claire Victor 12th grade  
\$50, \$50 matching award to teacher/sponsor  
Centaurus High School Lafayette  
*Renewable Hydrogen and Fuel Cells: The Future of Energy*

Isaac Jordan 11th grade  
\$100, \$100 matching award to teacher/Sponsor  
Animas High School Durango  
*A Novel Approach for Sensing Seismic Events: Applications of  
Graphene Nano-flake Powder Composites*

## ASM International

### *ASM Materials Education Foundation Award*

Kyle Fridberg 11th grade  
\$100  
Fairview High School Boulder  
*A Novel Method of Producing Colloidal Gold Nanoparticles  
from Gold Ore and Aqueous Sulfuric Acid*

Jay Chandra 11th grade  
\$150  
Fossil Ridge High School Fort Collins  
*Carbon Coatings on a Copper Antimonide Anode for Enhanced  
Performance and Lifetime in Rechargeable Metal-Ion Batteries*

## Biomedical Engineering Society

### *Excellence in Biomedical Engineering Award*

Marissa Jordan 8th grade  
goody bag of BME stuff  
Home School Ignacio  
*A Softer Side of Robots: Using Grippers Made From Soft  
Materials*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

Chase Cromwell  
goody bag of BME stuff  
Lamar High School  
*Stampede Arm*

9th grade  
Lamar

Jason Cui  
\$100, certificate  
Southern Hills Middle School  
*Powerful Natural Antibiotics*

7th grade  
Boulder

Amy Nguyen & Katherine Tran  
\$50, goody bag of BME stuff  
DSST: College View High School  
*Let It Flow: Developments of a New Two-Leaflet Bovine Tissue Mitral Valve Replacement*

9th grade  
Denver

Kaitlyn Carson  
\$50, certificate  
Windsor High School  
*The Effects of Wash Water Temperature on Egg Shell Permeability*

12th grade  
Windsor

## Biophysical Society *Biophysics Award*

Caroline Jennings  
\$100, certificate  
The Classical Academy  
*Population Dynamics of Predation in a Competitive Lupine-Ovine-Grassland Ecosystem: The Simulation that Cried Wolf*

10th grade  
Colorado Springs

Michelle Kummel  
\$100, certificate  
Palmer High School  
*Microclimatological Feedbacks at Treeline*

11th grade  
Colorado Springs

## Colorado BioScience Institute *BioGENEius Challenge*

Hari Sowrirajan  
all-expense paid trip to compete at the US National and International competition held in San Diego, CA June 2017 during the International BIO Convention  
*Optimization of Zinc Oxide Nanoparticles for Vaccine Delivery*

11th grade  
Greenwood Village

## Colorado Association of Meat Processors

### *Excellence in Meat Science & Food Safety Award*

Allen Olmedo Soto  
\$80, certificate  
Greeley West High School  
*From Poop To Your Table*

12th grade  
Greeley

## Colorado Chemistry Teachers' Association *CCTA Chemistry Award*

Charlie Clapper  
\$100  
Stratton Schools  
*Viscosity*

Tyson Schneider  
\$100  
Arickaree School  
*Wicktastic*

7th grade  
Stratton  
9th grade  
Anton

## Colorado Association of Science Teachers *CAST Award*

Charlotte Granrud  
\$100  
Frontier Academy  
*Which Sunscreen Provides the Most Protection from Harmful Sun Rays?*

7th grade  
Greeley

Kobi Hobert  
\$100  
Turner Middle School  
*Iron Oxide*

8th grade  
Berthoud

Kyle Fridberg  
\$100  
Fairview High School  
*A Novel Method of Producing Colloidal Gold Nanoparticles from Gold Ore and Aqueous Sulfuric Acid*

11th grade  
Boulder

Molly Nehring  
\$100  
Monte Vista High School  
*Dancing with the Stars: Simulating Multi-Star Solar Systems & the Probability of Planetary Ejection*

10th grade  
Monte Vista

## Colorado Biology Teachers' Association *CBTA Best Biology Project Award*

Elias Arredondo  
\$50, certificate  
Monte Vista On-line Academy  
*Fish Fertilizer: The Correlation Between Fish and Foliage*

6th grade  
Monte Vista

## Colorado Dental Association *CDA Excellence in Oral Health Award*

Beau Tate  
\$50  
Walsh Jr/Sr High School  
*They See Me Flossing!*

7th grade  
Walsh

Maya Monks  
Annika Reeder-Holman  
\$100  
Stanley British Primary School  
*Effect of Teeth Brushing and Chewies on Canine Oral Bacterial Count*

7th grade  
7th grade  
Denver

Brecken Dobbs  
\$50  
La Veta Schools  
*Tooth Enamel: Can It Really Be Strengthened? Year Two*

8th grade  
La Veta

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

Kaytlyn Keating<sup>1</sup> & Emilee Wells<sup>2</sup> 8th grade  
\$100  
<sup>1</sup>Weldon Valley School Weldona  
<sup>2</sup>Fort Morgan Middle School Fort Morgan  
*Detox Your Mouth to Cleanse Your Health!*

## Colorado Division of Reclamation, Mining & Safety

### *Outstanding Earth Science Award*

Nathaniel Brim 8th grade  
\$75  
The Classical Academy Colorado Springs  
*Depuration Kinetics of Activated Carbon With Ion Exchange Resins, Poly Filter Pad, and Freshwater Bivalves in Aqueous Solutions contaminated with Heavy Metals*

Mitchell Fosdick 12th grade  
\$75  
Fowler High School Fowler  
*The Uptake of Copper Ions by Chlorella Vulgaris*

## Colorado Environmental Health Association

### *Environmental Health Award*

Mikailah Feinman 7th grade  
\$75, framed certificate  
Primero Jr/Sr High School Weston  
*Produced Gas Well Water: Can It Be Repurposed for Agricultural Use?*

Eric Bear 11th grade  
\$150, framed certificate, invitation to exhibit at the CEHA Annual Educational Conference (valued at \$400)  
Colorado Academy Denver  
*Determining Water Treatment Planning Using a Classification Model Neural Network*

## Colorado Foundation for Agriculture

### *Agriculture in the Classroom Award*

Michaela Ravenkamp 7th grade  
certificate, \$50  
Genoa-Hugo School Hugo  
*Farmtastic*

Paige Beedy 8th grade  
Trista Marx 7th grade  
certificate, \$50  
Limon Schools Limon  
*Organic Fertilizers*

Parker Randolph 10th grade  
certificate, \$50  
Monte Vista High School Monte Vista  
*Examining the Effects of Martian Soil, Additives, Water Quality, and Companion Planting on Biomass a*

Lacey Niccoli 10th grade  
certificate, \$50  
Arickaree School Anton  
*Reclaimed! The Effects of Amendments on Soil Reclamation*

## Colorado Geographic Alliance

### *COGA Application of Geography Award*

Julia Warnock 7th grade  
\$100  
Poudre Global Academy Fort Collins  
*Habitats Most Affected by Light Pollution in Red Fox Meadows*  
Kate DeMarsh & Madison Bohling 12th grade  
\$100  
Monarch High School Lousiville  
*Cape Verde Hurricanes: How Genesis Point Impacts Landfall Latitude*

## Colorado Medical Society

### *CMS Education Foundation Award*

Colleen Farrell 7th grade  
\$100, invitation to the winners and their parents to exhibit at the Colorado Medical Society Annual Meeting and attendance at the Presidential Inaugural Dinner with a paid overnight stay  
Eagle County Charter Academy Edwards  
*Hidden Dangers of the Doctor's Office*

Hari Sowrirajan 11th grade  
\$100, invitation to the winners and their parents to exhibit at the Colorado Medical Society Annual Meeting and attendance at the Presidential Inaugural Dinner with a paid overnight stay  
Cherry Creek High School Greenwood Village  
*Optimization of Zinc Oxide Nanoparticles for Vaccine Delivery*

## Colorado Mineral Society

### *Best Earth Science Award*

Paul Knight 8th grade  
\$35, mineral specimen, book, certificate  
Miller Middle School Durango  
*Tidy Up Those Tailings*

Joshua Miller 8th grade  
\$50, mineral specimen, book, certificate  
Skinner Middle School Denver  
*Effect of Sand Grain Size on Supportiveness of a Structure During a Liquefaction Event*

Jenna Salvat 10th grade  
\$35, mineral specimen, book, certificate  
Coronado High School Colorado Springs  
*Characterization of the Pyroelectric and Piezoelectric Effect Exhibited by Alpha-Crystalline Silicon Dioxide: Potential Application as a Micro-Thermovoltic Transducer*

Kyle Fridberg 11th grade  
\$50, mineral specimen, book, certificate  
Fairview High School Boulder  
*A Novel Method of Producing Colloidal Gold Nanoparticles from Gold Ore and Aqueous Sulfuric Acid*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

## Colorado Mycological Society

### *Excellence in Mycological Research Award*

Paul Knight 8th grade  
certificate, \$100, CMS membership for 2017  
Miller Middle School Durango  
*Tidy Up Those Tailings*

## Colorado Native Plant Society

### *Colorado Native Plants Award for Excellence*

Sofia Bader 8th grade  
\$50  
Miller Middle School Durango  
*Build the Swamp*

Michelle Kummel 11th grade  
\$50  
Palmer High School Colorado Springs  
*Microclimatological Feedbacks at Treeline*

## Colorado Scientific Society

### *Excellence in Geology Award*

Josef Perko 7th grade  
\$50  
Walt Clark Middle School Loveland  
*Effects of Dry Ice Sublimation on Mars Geology, Part 2*

Kody Donnelson 6th grade  
\$75  
Fleming Middle School Fleming  
*Marble, Marble, Everywhere and What an Acid Rain Drop Will Do*

Wyatt Wiening 11th grade  
\$75  
Trinidad High School Trinidad  
*Effect of Milankovitch Cyclicity on Prehistoric Marine Life of the Late Cretaceous Middle Cenomanian*

Jenna Salvat 10th grade  
\$100  
Coronado High School Colorado Springs  
*Characterization of the Pyroelectric and Piezoelectric Effect Exhibited by Alpha-Crystalline Silicon Dioxide: Potential Application as a Micro-Thermovoltic Transducer*

## Colorado State University

### College of Agricultural Sciences

#### *Innovations in the Science of Agriculture Award*

Elishevlyne Eliason 8th grade  
\$500  
Challenge School Denver  
*The Least of Us*

Riley Russell 11th grade  
Anand Chundi 9th grade  
\$500  
SkyView Academy Highlands Ranch  
*Morphological Effects of a Predator on Crayfish: Fight or Flight?*

## Colorado State University

### Dept. of Biochemistry & Molecular Biology

#### *Excellence in Biochemistry & Molecular Biology Award*

Solomon Bloomfield 11th grade  
\$100, certificate  
Fairview High School Boulder  
*Amph-1 Knockdown Aggravates Pathogenesis of Alzheimer's Disease in Caenorhabditis Elegans*

## Colorado State University

### Dept. of Horticulture & Landscape Architecture

#### *Excellence in Horticulture Award*

Elias Arredondo 6th grade  
\$125  
Monte Vista On-line Academy Monte Vista  
*Fish Fertilizer: The Correlation Between Fish and Foliage*

Parker Stone 6th grade  
\$125  
Beaver Valley Elementary School Brush  
*Get It Ripe*

Isabella Bowland 11th grade  
\$125  
Fairview High School Boulder  
*Bad Altitude: Climate Change in the Alpine May Alter Beneficial Plant-Fungal Relationships*

Parker Randolph 10th grade  
\$125  
Monte Vista High School Monte Vista  
*Examining the Effects of Martian Soil, Additives, Water Quality, and Companion Planting on Biomass a*

## Colorado State University

### Energy Institute

#### *Energy Achievement Award*

Claire Victor 12th grade  
\$250, certificate  
Centaurus High School Lafayette  
*Renewable Hydrogen and Fuel Cells: The Future of Energy*

## Colorado Veterinary Medical Association

### *Veterinary Science Award*

Maya Monks & Annikae Reeder-Holman 7th grade  
\$100, certificate  
Stanley British Primary School Denver  
*Effect of Teeth Brushing and Chewies on Canine Oral Bacterial Count*

Peyton Leyendecker 9th grade  
\$100, certificate  
SkyView Academy Highlands Ranch  
*Manuka Honey Surgical Adhesive*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

## Colorado's Touchstone Energy Cooperatives

### *The Colorado EnergyWise award*

Tate Schrock 7th grade  
\$250  
Arickaree School Anton  
*H2 and O2 Generator Fabrication & PEM Fuel Cell Efficiency*

Michelle Ren & Julianna O'Clair 10th grade  
\$250  
Brush High School Brush  
*Energy Production of Microbial Fuel Cells*

## Colorado-Wyoming Society of American Foresters

### *Excellence in Forestry Research Award*

Kathryn Kummel 8th grade  
\$200  
North Middle School Colorado Springs  
*Gone with the Wind: The Horseshoe Vortex Behind Tree Islands on Pikes Peak & Impact on Tree Growth*

Michelle Kummel 11th grade  
\$200  
Palmer High School Colorado Springs  
*Microclimatological Feedbacks at Treeline*

## Comstock Family

### *Heather Comstock Memorial Award*

Seth Young 12th grade  
\$200  
The Classical Academy Colorado Springs  
*Applied Biomineralization: Increasing Magnetosome Formation in AMB-1 for Industrial Purposes Through Genetic Recombination of Genes Essential to Magnetosome Formation and Mutation Mediated by UV Radiation*

## Consumer Energy Education Foundation

### *Energy Day Academic Program Award*

Kyle Fridberg 11th grade  
\$100  
Fairview High School Boulder  
*A Novel Method of Producing Colloidal Gold Nanoparticles from Gold Ore and Aqueous Sulfuric Acid*

Jenna Salvat 10th grade  
\$100  
Coronado High School Colorado Springs  
*Characterization of the Pyroelectric and Piezoelectric Effect Exhibited by  $\hat{\pm}$ -Crystalline SiO2*

Jay Chandra 11th grade  
\$100  
Fossil Ridge High School Fort Collins  
*Carbon Coatings on a Copper Antimonide Anode for Enhanced Performance and Lifetime in Rechargeable Metal-Ion Batteries*

Aubrey Berger 11th grade  
\$100  
Eaglecrest High School Centennial  
*Mechanized Collection of Organic Spider Silk*

Alyssa Rawinski 10th grade  
\$100  
Monte Vista High School Monte Vista  
*Western Snowy Plover Nest Site Characteristics and Use of Drone Imagery in Predicting Potential Nesting Habitat*

Molly Nehring 10th grade  
\$100  
Monte Vista High School Monte Vista  
*Dancing with the Stars: Simulating Multi-Star Solar Systems & the Probability of Planetary Ejection*

Eric Bear 11th grade  
\$00  
Colorado Academy Denver  
*Determining Water Treatment Planning Using a Classification Model Neural Network*

Elia Gorokhovskiy 10th grade  
\$100  
Fairview High School Boulder  
*A Method for the Reduction of Time Error in the Ensemble Adjustment Kalman Filter*

## Dairy Tech, Inc.

### *Dairy Tech Agricultural Focus Award*

Charlese Satterfield 7th grade  
\$200  
Canon Exploratory School Canon City  
*Bigger Eggs for Peanuts*

## Fort Collins Conservation District

### *Conservation District Award*

Mikailah Feinman 7th grade  
plaque, \$50  
Primero Jr/Sr High School Weston  
*Produced Gas Well Water: Can It Be Repurposed for Agricultural Use?*

Cassidy Plane 12th grade  
plaque, \$50  
Alamosa High School Alamosa  
*Can This Macromolecule Captivate Your Microorganisms?*

## Frank Armbruster Foundation

### *Armbruster Memorial Award*

Kadence Kunselman 7th grade  
\$100  
Walsh Jr/Sr High School Walsh  
*I've Got the Power*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

## Geological Society of America

### GSA Awards in Environmental Geology

Nathaniel Brim 8th grade  
plaque, certificate, \$50 gift card, GSA memorabilia  
The Classical Academy Colorado Springs  
*Depuration Kinetics of Activated Carbon With Ion Exchange  
Resins, Poly Filter Pad, and Freshwater Bivalves in Aqueous  
Solutions contaminated with Heavy Metals*

Scott Prieve 8th grade  
plaque, certificate, \$75 gift card, GSA memorabilia  
North Middle School Colorado Springs  
*To Rip or To Rap: How Does the Design of Erosion Control on  
a Creek Bend Affect Bank Deterioration?*

Kathryn Kummel 8th grade  
plaque, certificate, \$100 gift card, GSA memorabilia  
North Middle School Colorado Springs  
*Gone with the Wind: The Horseshoe Vortex Behind Tree  
Islands on Pikes Peak & Impact on Tree Growth*

## Gromko Family

### Gerald Gromko Memorial Award

Leighton Burt 12th grade  
\$150  
Sargent Jr/Sr High School Monte Vista  
*Life Saving Locating: Developing Autonomous Avalanche  
Rescue Part 3*

## Human Factors and Ergonomics Society

### Rocky Mountain Chapter

*Excellence in Human Factors & Ergonomics Award*  
Allison Rose 7th grade  
\$100  
The Classical Academy Colorado Springs  
*Engineering Design of an Improved Grasper for Eating  
Cheesy-Sticky Snacks*

## Institute of Electrical & Electronics Engineers

### High Plains Section

#### IEEE Award

Sara Nehring 8th grade  
\$100 cash card  
Monte Vista Middle School Monte Vista  
*Over the Hill and Through the Codes to Encryption and  
Decryption We Go!*

Weston Metzler 11th grade  
\$150 cash card  
Peak to Peak Charter School Lafayette  
*Compiling to Higher Levels of Abstraction on Calculators*

## Koppa Research, LLC

### Koppa Research's Einstein Award for Achievements in Physics

Matthew Anderson 7th grade  
\$250  
Challenge School Denver  
*How the Percentage of Alpha Particles Shielded Changes with  
Different Types of Shielding*

## Little Shop of Physics

### Matthew McCausland Memorial Award

Henry Foisie 7th grade  
science equipment/instruments  
The Classical Academy Colorado Springs  
*Easy Peasy Piezo Power*

Alyssa Lee 8th grade  
science equipment/instruments  
Summit Charter Middle School Boulder  
*The Physics of Flying: G-Forces in Aerial Dance*

Alden Kruse 8th grade  
science equipment/instruments  
Home School Colorado Springs  
*Into Thin Air: A Search for Microbes in the Stratosphere*

Paul Brophy 10th grade  
science equipment/instruments  
Yuma High School Yuma  
*Non-Newtonian Fluids in Baseball*

## Lockheed Martin

### Lockheed Martin Aerospace Award

Eric Bauman 8th grade  
\$50  
The Classical Academy Colorado Springs  
*In the Absence of Air*

Christoph Cikraji 12th grade  
\$100  
Durango High School Durango  
*Artificial Gravity Concept for Sustainable Space*

## National Centers for Environmental Information

### NCEI Award for Scientific Achievement

Nathaniel Brim 8th grade  
certificate, monetary award from an anonymous donor  
The Classical Academy Colorado Springs  
*Depuration Kinetics of Activated Carbon With Ion Exchange  
Resins, Poly Filter Pad, and Freshwater Bivalves in Aqueous  
Solutions contaminated with Heavy Metals*

## National Defense Industrial Association

### NDIA STEM Excellence Award

Nico Martinez 6th grade  
\$100  
Pueblo Academy of Arts Pueblo  
*Does a Robotic Hand Have the Ability to Grasp and Move  
Objects in a Timely Manner?*



# 2017 Colorado Science and Engineering Fair Special Awards Press Release

Matthew Anderson 7th grade  
\$100  
Challenge School Denver  
*How the Percentage of Alpha Particles Shielded Changes with Different Types of Shielding*

Alden Kruse 8th grade  
\$100  
Home School Colorado Springs  
*Into Thin Air: A Search for Microbes in the Stratosphere*

Hailey Melvin 6th grade  
\$200  
Dolores Middle School Dolores  
*Can You Make an Alternate Fuel Out of Food?*

Gabe Wu 7th grade  
\$200  
The Classical Academy Colorado Springs  
*Improving the LED Solar Panel Light Circuit*

Cooper Hanley 8th grade  
\$200  
Louisville Middle School Louisville  
*Can You Generate Electricity By Moving?*

## National Renewable Energy Laboratory NREL Energy Award

Brendan Gould 9th grade  
\$100  
The Classical Academy Colorado Springs  
*Going Bananas: Using Banana Peels in Polymerization Reactions to Produce Thermoplastics*

## Rocky Mountain Association of Geologists Excellence in Earth Science Award

Sam Haggans 8th grade  
\$125  
Summit Charter Middle School Boulder  
*Does Position Matter? Testing Different Layouts of Erosion Barriers in a Stream Bed*

Leo Foster Greer 12th grade  
\$125  
Boulder High School Boulder  
*Harvest Project: Correcting Sea State Bias*

Alex Tseng 7th grade  
\$250  
Stanley British Primary School Denver  
*Which Waste Shouldn't Be Wasted?*

Eric Bear 11th grade  
\$250  
Colorado Academy Denver  
*Determining Water Treatment Planning Using a Classification Model Neural Network*

## Rocky Mountain Water Environment Association

### Water Research Award

Sofia Bader 8th grade  
\$200  
Miller Middle School Durango  
*Build the Swamp*

Nathaniel Brim 8th grade  
\$400  
The Classical Academy Colorado Springs  
*Depuration Kinetics of Activated Carbon with Ion Exchange Resins, Poly Filter Pad, and Freshwater Bivalves in Aqueous Solutions contaminated with Heavy Metals*

Max Warnock 9th grade  
\$200  
Poudre Global Academy Fort Collins  
*The Impact of Odor Control Clothing on Water Boatmen (Corixidae)*

McKinley Dirks & Alexandra Rivera 11th grade  
\$400  
SkyView Academy Highlands Ranch  
*Methods to Reduce Micropollutants in Treated Water*

## SACNAS, Colorado State University Chapter SACNAS CSU Rising Young Scientist Award

Anila Narayana 10th grade  
\$50  
Rock Canyon High School Highlands Ranch  
*Exploring the Genome: A Search for the Eczema Gene*

Elishevlyne Eliason 8th grade  
\$50  
Challenge School Denver  
*The Least of Us*

Adrian Pizano 8th grade  
\$50  
Rocky Ford Jr/Sr High School Rocky Ford  
*Testing the Waters*

## Science Toy Magic, LLC

### Physics Classroom Demonstration Award

Ethan Cerniglia 8th grade  
\$50  
The Classical Academy Colorado Springs  
*Lift Off*

Marissa Jordan 8th grade  
\$100  
Home School Ignacio  
*A Softer Side of Robots: Using Grippers Made From Soft Materials*

Xander Duvall 6th grade  
\$50  
Thomas MacLaren School Colorado Springs  
*Magnetic Effects on Subatomic Particles*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

Chase Cromwell 9th grade  
\$100  
Lamar High School Lamar  
*Stampede Arm*

## Society for Mining, Metallurgy and Exploration Colorado Section

### *Excellence in Mineral Science & Engineering Award*

Nathaniel Brim 8th grade  
plaque, \$100  
The Classical Academy Colorado Springs  
*Depuration Kinetics of Activated Carbon With Ion Exchange Resins, Poly Filter Pad, and Freshwater Bivalves in Aqueous Solutions contaminated with Heavy Metals*

Scott Prieve 8th grade  
plaque, \$200  
North Middle School Colorado Springs  
*To Rip or To Rap: How Does the Design of Erosion Control on a Creek Bend Affect Bank Deterioration?*

Mitchell Fosdick 12th grade  
plaque, \$150  
Fowler High School Fowler  
*The Uptake of Copper Ions by Chlorella Vulgaris*

Lacey Niccoli 10th grade  
plaque, \$150  
Arickaree School Anton  
*Reclaimed! The Effects of Amendments on Soil Reclamation*

Kyle Fridberg 11th grade  
plaque, \$400  
Fairview High School Boulder  
*A Novel Method of Producing Colloidal Gold Nanoparticles from Gold Ore and Aqueous Sulfuric Acid*

## Society of Manufacturing Engineers Colorado Chapter 354

### *Andy Keller Memorial Award*

Chase Cromwell 9th grade  
\$100, recognition by the local chapter  
Lamar High School Lamar  
*Stampede Arm*

Henry Foisie 7th grade  
\$150, recognition by local chapter  
The Classical Academy Colorado Springs  
*Easy Peazy Piezo Power*

Marissa Jordan 8th grade  
\$200, recognition by local chapter  
Home School Ignacio  
*A Softer Side of Robots: Using Grippers Made From Soft Materials*

## Society of Women Engineers Rocky Mountain Section *SWE Award*

Allison Rose 7th grade  
certificate, \$75  
The Classical Academy Colorado Springs  
*Engineering Design of an Improved Grasper for Eating Cheesy-Sticky Snacks*

Marissa Jordan 8th grade  
certificate, \$100  
Home School Ignacio  
*A Softer Side of Robots: Using Grippers Made From Soft Materials*

Aubrey Berger 11th grade  
certificate, \$75  
Eaglecrest High School Centennial  
*Mechanized Collection of Organic Spider Silk*

Ashley Aguilar 12th grade  
certificate, \$100  
New Vista High School Boulder  
*Converting Mechanical Vibrations into Electrical Energy Via Dielectric Elastomer Generators (DEGs)*

## Soil & Water Conservation Society Colorado Chapter

### *Natural Resource Conservation Award*

Serenity Foutz 6th grade  
\$100, certificate  
Bayfield Middle School Bayfield  
*Gone with the Water*

Shannon Bland 12th grade  
\$100, certificate  
Lamar High School Lamar  
*Stop That Flood (Part VI)*

## SPIE, the international society for optics and photonics

### *SPIE Optics and Photonics Special Award*

Kylie Walters 7th grade  
\$50  
The Classical Academy Colorado Springs  
*The Blind Side*

Anna Dery 7th grade  
\$100  
Holy Family Catholic School Grand Junction  
*Distance to the Stars*

Julia Warnock 7th grade  
\$150  
Poudre Global Academy Fort Collins  
*Habitats Most Affected by Light Pollution in Red Fox Meadows*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

Karry Pileggi 10th grade  
\$100  
SkyView Academy Highlands Ranch  
*The Effects of Auxin with External Factors on Root Growth*

Nathaniel Miner & Drake Ludgate 10th grade  
\$150  
Brush High School Brush  
*Black Carbon Detection: A Regional Snow Survey*

Molly Nehring 10th grade  
\$250  
Monte Vista High School Monte Vista  
*Dancing with the Stars: Simulating Multi-Star Solar Systems & the Probability of Planetary Ejection*

### The Inventors' Roundtable Inventors' Roundtable Award

Leighton Burt 12th grade  
\$100 cash, free patent search (valued at \$499.00)  
Sargent Jr/Sr High School Monte Vista  
*Life Saving Locating: Developing Autonomous Avalanche Rescue Part 3*

### Trout Unlimited

#### *Trout Unlimited River Conservation Award*

Paul Knight 8th grade  
\$75  
Miller Middle School Durango  
*Tidy Up Those Tailings*

Manuel Lucero 6th grade  
\$125  
Centauri Middle School La Jara  
*Those "Banking" Beavers: A Trickle-Down Approach to Conservation*

Scott Prieve 8th grade  
\$200  
North Middle School Colorado Springs  
*To Rip or To Rap: How Does the Design of Erosion Control on a Creek Bend Affect Bank Deterioration?*

### United States Air Force

#### *Air Force ROTC Award*

Leighton Burt 12th grade  
certificate, over-the-shoulder sling pack, power bank charger,  
dog tag USB flash memory drive, dual USB car charger  
Sargent Jr/Sr High School Monte Vista  
*Life Saving Locating: Developing Autonomous Avalanche Rescue Part 3*

Kylie Walters 7th grade  
certificate, over-the-shoulder sling pack, power bank charger,  
dog tag USB flash memory drive, dual USB car charger  
The Classical Academy Colorado Springs  
*The Blind Side*

### United States Department of Commerce

#### *Award for Excellence in Science and Engineering*

Ashley Aguilar 12th grade  
alternate for an opportunity for summer employment with the  
Department of Commerce (possibility for future continued  
employment)

New Vista High School Boulder  
*Converting Mechanical Vibrations into Electrical Energy Via Dielectric Elastomer Generators (DEGs)*

Leighton Burt 12th grade  
an opportunity for summer employment with the Department of  
Commerce (possibility for future continued employment)

Sargent Jr/Sr High School Monte Vista  
*Life Saving Locating: Developing Autonomous Avalanche Rescue Part 3*

### United States Navy & Marine Corps

#### *Office of Naval Research Award*

Hailey Melvin 6th grade  
letter of congratulations, certificate, medallion  
Dolores Middle School Dolores  
*Can You Make an Alternate Fuel Out of Food?*

Jason Cui 7th grade  
letter of congratulates, certificate, medallion  
Southern Hills Middle School Boulder  
*Powerful Natural Antibiotics*

Julia Warnock 7th grade  
letter of congratulates, certificate, medallion  
Poudre Global Academy Fort Collins  
*Habitats Most Affected by Light Pollution in Red Fox Meadows*

Eric Bauman 8th grade  
letter of congratulates, certificate, medallion  
The Classical Academy Colorado Springs  
*In the Absence of Air*

Ellie Clark 7th grade  
letter of congratulates, certificate, medallion  
St. Columba Catholic School Durango  
*Fabric Nanofinishing: Adventures in Textile Engineering*

Weston Metzler 11th grade  
letter of congratulates, certificate, medallion, \$75 gift card (to  
be mailed)  
Peak to Peak Charter School Lafayette  
*Compiling to Higher Levels of Abstraction on Calculators*

Max Markuson DiPrince 11th grade  
letter of congratulates, certificate, medallion, \$75 gift card (to  
be mailed)  
Central High School Pueblo  
*Windmill Efficiency Part 2: Replicating & 3D Printing Natural Leaf Designs on a Vertical-axis Turbine*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

Sai Kaushik Yeturu 12th grade  
letter of congratulates, certificate, medallion, \$75 gift card (to be mailed)  
Peak to Peak Charter School Lafayette  
*A Bio-inspired Saddle Mechanism for Mechanical Energy Storage*

## University of Colorado, Denver

### *Medical Scientist Training Program Award*

Nathan Panzer 8th grade  
\$50  
North Arvada Middle School Arvada  
*The Effects of Foreign Substances on Blood Coagulation Times*  
Solomon Bloomfield 11th grade  
\$50  
Fairview High School Boulder  
*Amph-I Knockdown Aggravates Pathogenesis of Alzheimer's Disease in Caenorhabditis Elegans*

## Vaughan Web Works

### *Glissmann Family Award for Best Use of Software Programming*

Sara Nehring 8th grade  
\$50  
Monte Vista Middle School Monte Vista  
*Over the Hill and Through the Codes to Encryption and Decryption We Go!*  
Eric Bear 11th grade  
\$100  
Colorado Academy Denver  
*Determining Water Treatment Planning Using a Classification Model Neural Network*

## Wilkins Family

### *Young Entrepreneur's Award*

Leighton Burt 12th grade  
\$500  
Sargent Jr/Sr High School Monte Vista  
*Life Saving Locating: Developing Autonomous Avalanche Rescue Part 3*

## Wojtaszek Family

### *Paul Wojtaszek Memorial Award*

Katherine Larson 11th grade  
\$200  
Home School Colorado Springs  
*Electrical Impedance Tomography as a Tool for Detecting Tumors*

## Women in Physics, Colorado State University

### *Promising Young Woman in Science Award*

Molly Nehring 10th grade  
certificate, science gift bag  
Monte Vista High School Monte Vista  
*Dancing with the Stars: Simulating Multi-Star Solar Systems & the Probability of Planetary Ejection*

## Zonta Club of Boulder County

### *Amelia Earhart Award*

Anna Dery 7th grade  
\$100, certificate  
Holy Family Catholic School Grand Junction  
*Distance to the Stars*

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## Scholarships

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### Adams State University

#### *Adams State University Scholarships*

Natalya Komleva 12th grade  
scholarship to ASU valued as the equivalent to one-year resident tuition and fees (~\$9,000)  
Northridge High School Greeley  
*Brain Food: The Effects of Nutritional Changes In Memory Enhancement and Neurotransmitter Functional*  
Sarah Davidson 11th grade  
scholarship to ASU valued as the equivalent to one-year resident tuition and fees (~\$9,000)  
Nederland Middle-Senior High Nederland  
*Differences in Functions of Proprioceptive Feedback Mechanisms: In Shod and Barefoot Conditions*  
Aaliyah Garcia 10th grade  
scholarship to ASU valued as the equivalent to one-year resident tuition and fees (~\$9,000)  
Center High School Center  
*Wildland Firefighter Defense System: Phase Two*  
Jenna Salvat 10th grade  
scholarship to ASU valued as the equivalent to one-year resident tuition and fees (~\$9,000)  
Coronado High School Colorado Springs  
*Characterization of the Pyroelectric and Piezoelectric Effect Exhibited by Alpha-Crystalline Silicon Dioxide: Potential Application as a Micro-Thermovoltic Transducer*  
Max Markuson DiPrince 11th grade  
scholarship to ASU valued as the equivalent to one-year resident tuition and fees (~\$9,000)  
Central High School Pueblo  
*Windmill Efficiency Part 2: Replicating & 3D Printing Natural Leaf Designs on a Vertical-axis Turbine*  
Chase Cromwell 9th grade  
scholarship to ASU valued as the equivalent to one-year resident tuition and fees (~\$9,000)  
Lamar High School Lamar  
*Stampede Arm*  
Alyssa Rawinski 10th grade  
scholarship to ASU valued as the equivalent to one-year resident tuition and fees (~\$9,000)  
Monte Vista High School Monte Vista  
*Western Snowy Plover Nest Site Characteristics and Use of Drone Imagery in Predicting Potential Nesting Habitat*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

Caroline Jennings 10th grade  
scholarship to ASU valued as the equivalent to one-year  
resident tuition and fees (~\$9,000)  
The Classical Academy Colorado Springs  
*Population Dynamics of Predation in a Competitive  
Lupine-Ovine-Grassland Ecosystem: The Simulation that  
Cried Wolf*

Katherine Larson 11th grade  
scholarship to ASU valued as the equivalent to one-year  
resident tuition and fees (~\$9,000)  
Home School Colorado Springs  
*Electrical Impedance Tomography as a Tool for Detecting  
Tumors*

Cassidy Plane 12th grade  
scholarship to ASU valued as the equivalent to one-year  
resident tuition and fees (~\$9,000)  
Alamosa High School Alamosa  
*Can This Macromolecule Captivate Your Microorganisms?*

Michael Duran 10th grade  
scholarship to ASU valued as the equivalent to one-year  
resident tuition and fees (~\$9,000)  
Primero Jr/Sr High School Weston  
*How Strong Is Water?*

Parker Randolph 10th grade  
scholarship to ASU valued as the equivalent to one-year  
resident tuition and fees (~\$9,000)  
Monte Vista High School Monte Vista  
*Examining the Effects of Martian Soil, Additives, Water  
Quality, and Companion Planting on Biomass a*

Maya Duran<sup>1</sup> & Sayer Guerrero<sup>2</sup> 11th grade  
scholarship to ASU valued as the equivalent to one-year  
resident  
tuition and fees (~\$9,000)  
<sup>1</sup>Dolores Huerta Preparatory High School Pueblo  
<sup>2</sup>South High School Pueblo  
*Strike a Pose*

## Colorado College, Summer Session Office Colorado College Summer Session Merit Scholarship

Eric Bear 11th grade  
\$500 merit scholarship to attend Colorado College in Summer  
2017 as a pre-college student  
Colorado Academy Denver  
*Determining Water Treatment Planning Using a Classification  
Model Neural Network*

## Colorado School of Mines

### Colorado School of Mines Scholarship

Kyle Fridberg 11th grade  
\$1,000 renewable scholarship for use towards an undergraduate  
degree  
Fairview High School Boulder  
*A Novel Method of Producing Colloidal Gold Nanoparticles  
from Gold Ore and Aqueous Sulfuric Acid*

Max Markuson DiPrince 11th grade  
\$1,000 renewable scholarship for use towards an undergraduate  
degree  
Central High School Pueblo  
*Windmill Efficiency Part 2: Replicating & 3D Printing Natural  
Leaf Designs on a Vertical-axis Turbine*

Jay Chandra 11th grade  
\$1,000 renewable scholarship for use towards an undergraduate  
degree  
Fossil Ridge High School Fort Collins  
*Carbon Coatings on a Copper Antimonide Anode for Enhanced  
Performance and Lifetime in Rechargeable Metal-Ion Batteries*

Aubrey Berger 11th grade  
\$1,000 renewable scholarship for use towards an undergraduate  
degree  
Eaglecrest High School Centennial  
*Mechanized Collection of Organic Spider Silk*

Eric Bear 11th grade  
\$1,000 renewable scholarship for use towards an undergraduate  
degree  
Colorado Academy Denver  
*Determining Water Treatment Planning Using a Classification  
Model Neural Network*

McKinley Dirks & Alexandria Rivera 11th grade  
\$1,000 renewable scholarship for use towards an undergraduate  
degree  
SkyView Academy Highlands Ranch  
*Methods to Reduce Micropollutants in Treated Water*

Stephanie Zhang 11th grade  
\$1,000 renewable scholarship for use towards an undergraduate  
degree  
Fairview High School Boulder  
*Gene Expression and Diseases Phase II: Developing a Model  
to Predict Cancer Progression*

## Colorado State University Colorado State University, Fort Collins Scholarships

Felix Channiago 10th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3  
additional semesters  
Conifer High School Conifer  
*The Effect of Airborne Vibration on Sensory Hairs  
(Trichobothria) of Phidippus Jumping Spiders*

Scott Litwiler 11th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3  
additional semesters  
Fairview High School Boulder  
*Teenagers Texting While Driving: Computerized Eye Tracking  
as a Method to Assess Visual Distraction During Driving  
Simulations*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

Jenna Salvat 10th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3 additional semesters  
Coronado High School Colorado Springs  
*Characterization of the Pyroelectric and Piezoelectric Effect Exhibited by Alpha-Crystalline Silicon Dioxide: Potential Application as a Micro-Thermovoltic Transducer*

Jay Chandra 11th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3 additional semesters  
Fossil Ridge High School Fort Collins  
*Carbon Coatings on a Copper Antimonide Anode for Enhanced Performance and Lifetime in Rechargeable Metal-Ion Batteries*

Aubrey Berger 11th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3 additional semesters  
Eaglecrest High School Centennial  
*Mechanized Collection of Organic Spider Silk*

Alyssa Rawinski 10th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3 additional semesters  
Monte Vista High School Monte Vista  
*Western Snowy Plover Nest Site Characteristics and Use of Drone Imagery in Predicting Potential Nesting Habitat*

Seth Young 12th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3 additional semesters  
The Classical Academy Colorado Springs  
*Applied Biomineralization: Increasing Magnetosome Formation in AMB-1 for Industrial Purposes Through Genetic Recombination of Genes Essential to Magnetosome Formation and Mutation Mediated by UV Radiation*

Molly Nehring 10th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3 additional semesters  
Monte Vista High School Monte Vista  
*Dancing with the Stars: Simulating Multi-Star Solar Systems & the Probability of Planetary Ejection*

## Colorado State University, Fort Collins College of Natural Sciences Colorado State University, College of Natural Sciences Scholarships

Isani Singh 11th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3 years  
Cherry Creek High School Englewood  
*Worse Outcomes in Turner Syndrome Women Compared to Women Without Turner Syndrome*

Elliot Gorokhovskiy 12th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3 years  
Fairview High School Boulder  
*Adding Data-Aware Sort Optimizations to C-Python*

Molly Nehring 10th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3 years  
Monte Vista High School Monte Vista  
*Dancing with the Stars: Simulating Multi-Star Solar Systems & the Probability of Planetary Ejection*

Seth Young 12th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3 years  
The Classical Academy Colorado Springs  
*Applied Biomineralization: Increasing Magnetosome Formation in AMB-1 for Industrial Purposes Through Genetic Recombination of Genes Essential to Magnetosome Formation and Mutation Mediated by UV Radiation*

Aubrey Berger 11th grade  
\$1,000 scholarships to attend CSU, renewable for up to 3 years  
Eaglecrest High School Centennial  
*Mechanized Collection of Organic Spider Silk*

## Colorado State University, Pueblo

### Colorado State University, Pueblo Scholarship

Isaac Jordan 11th grade  
\$1,000 scholarship to Colorado State University, Pueblo  
Animas High School Durango  
*A Novel Approach for Sensing Seismic Events: Applications of Graphene Nano-flake Powder Composites*

## Intel

### Ryan Patterson Scholarship

Seth Young 12th grade  
\$2,000 nonrenewable scholarship to college of student's choice  
The Classical Academy Colorado Springs  
*Applied Biomineralization: Increasing Magnetosome Formation in AMB-1 for Industrial Purposes Through Genetic Recombination of Genes Essential to Magnetosome Formation and Mutation Mediated by UV Radiation*

## University of Colorado, Boulder

### College of Engineering & Applied Science Scholarship

Santiago Castillo 8th grade  
\$500 renewable, conditional scholarship to CU Boulder  
Challenge School Denver  
*Reducing Seismic Accelerations in Buildings by Adding Reinforcements*

Amy Nguyen 9th grade  
Katherine Tran 9th grade  
\$500 renewable, conditional scholarship to CU Boulder  
DSST: College View High School Denver  
*Let It Flow: Developments of a New Two-Leaflet Bovine Tissue Mitral Valve Replacement*

Caroline Jennings 10th grade  
\$500 renewable, conditional scholarship to CU Boulder  
The Classical Academy Colorado Springs  
*Population Dynamics of Predation in a Competitive Lupine-Ovine-Grassland Ecosystem: The Simulation that Cried Wolf*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

Casey Shaw 11th grade  
\$1000 renewable scholarship to CU Boulder  
Liberty School Joes  
*Make Way for Duckweed: Observing the Growth Rates of Lemna and its Effect on Atmospheric Carbon Dioxide Concentrations in a Simulated Carbon Sink*

Isabella Bowland 11th grade  
\$1000 renewable scholarship to CU Boulder  
Fairview High School Boulder  
*Bad Altitude: Climate Change in the Alpine May Alter Beneficial Plant-Fungal Relationships*

Katherine Larson 11th grade  
\$1000 renewable scholarship to CU Boulder  
Home School Colorado Springs  
*Electrical Impedance Tomography as a Tool for Detecting Tumors*

Anurag Golla 12th grade  
\$1000 renewable scholarship to CU Boulder  
Fairview High School Boulder  
*Motility Optimization of the PNIPAm Based Drug Delivery System*

Stephanie Zhang 11th grade  
\$1000 renewable scholarship to CU Boulder  
Fairview High School Boulder  
*Gene Expression and Diseases Phase II: Developing a Model to Predict Cancer Progression*

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## SSP

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### American Psychological Association

*Outstanding Achievement in Psychological Sciences Award*

Sophia Murray 8th grade  
certificate  
Summit Charter Middle School Boulder  
*Mind the Gap: Growth Mindset and Gender*

Cassandra Blew 10th grade  
certificate  
La Veta Schools La Veta  
*Investigating Triggers of Sundowners Syndrome in Dementia Patients in an Institutional Setting: Year Two*

### Arizona State University

*Rob & Melani Walton Sustainability Solutions Initiative Award*

Eric Bear 11th grade  
certificate, nomination to enter the Rob & Melani Walton Sustainability Solutions Initiative Grand Prize (a trip to Arizona for the 2018 Sustainability Solutions Festival)  
Colorado Academy Denver  
*Determining Water Treatment Planning Using a Classification Model Neural Network*

Max Markuson DiPrince 11th grade  
certificate, nomination to enter the Rob & Melani Walton Sustainability Solutions Initiative Grand Prize (a trip to Arizona for the 2018 Sustainability Solutions Festival)  
Central High School Pueblo  
*Windmill Efficiency Part 2: Replicating & 3D Printing Natural Leaf Designs on a Vertical-axis Turbine*

Claire Victor 12th grade  
certificate, nomination to enter the Rob & Melani Walton Sustainability Solutions Initiative Grand Prize (a trip to Arizona for the 2018 Sustainability Solutions Festival)  
Centaurus High School Lafayette  
*Renewable Hydrogen and Fuel Cells: The Future of Energy*

Daniel Orbidan & Ethan Simpson 10th grade  
certificate, nomination to enter the Rob & Melani Walton Sustainability Solutions Initiative Grand Prize (a trip to Arizona for the 2018 Sustainability Solutions Festival)  
SkyView Academy Highlands Ranch  
*The Impact of Rutile Phase Titania Nanowire Length on Periphyton Colonization and Voltage Output*

### Association for Women Geoscientists

*Outstanding Achievement in Geosciences Award*

Kathryn Kummel 8th grade  
certificate  
North Middle School Colorado Springs  
*Gone with the Wind: The Horseshoe Vortex Behind Tree Islands on Pikes Peak & Impact on Tree Growth*

Leo Foster Greer 12th grade  
certificate  
Boulder High School Boulder  
*Harvest Project: Correcting Sea State Bias*

### Broadcom

*Broadcom MASTERS Nomination*

Alexandra Dalton 8th grade  
nomination to enter the 2017 Broadcom MASTERS competition for middle school students  
Peak to Peak Charter School Lafayette  
*Lobelia vs. Daphnia*

Ellie Schueler 8th grade  
nomination to enter the 2017 Broadcom MASTERS competition for middle school students  
North Middle School Colorado Springs  
*Violence in the Media: An Analysis of the Effects of Media Violence on Mental and Physical Health*

Grace Valentine 7th grade  
nomination to enter the 2017 Broadcom MASTERS competition for middle school students  
Most Precious Blood Catholic Denver  
*The Effect of Cocoa Content, Cooling Time and Heating Temperature on the Tempering of Chocolate*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

<p>Kathryn Kummel nomination to enter the 2017 Broadcom MASTERS competition for middle school students North Middle School <i>Gone with the Wind: The Horseshoe Vortex Behind Tree Islands on Pikes Peak &amp; Impact on Tree Growth</i></p>	<p>8th grade Colorado Springs</p>	<p>Elishevlyne Eliason nomination to enter the 2017 Broadcom MASTERS competition for middle school students Challenge School <i>The Least of Us</i></p>	<p>8th grade Denver</p>
<p>Henry Foisie nomination to enter the 2017 Broadcom MASTERS competition for middle school students The Classical Academy <i>Easy Peazy Piezo Power</i></p>	<p>7th grade Colorado Springs</p>	<p>Blakeley Bennett nomination to enter the 2017 Broadcom MASTERS competition for middle school students North Middle School <i>Got Color Cognition?</i></p>	<p>8th grade Colorado Springs</p>
<p>Marissa Jordan nomination to enter the 2017 Broadcom MASTERS competition for middle school students Home School <i>A Softer Side of Robots: Using Grippers Made From Soft Materials</i></p>	<p>8th grade Ignacio</p>	<p>Kaydee Dodge nomination to enter the 2017 Broadcom MASTERS competition for middle school students Craver Middle School <i>Pumpkin Preservation Part 3: Evaluating Hazards of Petroleum Jelly as a Jack'o Lantern Preservative</i></p>	<p>8th grade Colorado City</p>
<p>Scott Prieve nomination to enter the 2017 Broadcom MASTERS competition for middle school students North Middle School <i>To Rip or To Rap: How Does the Design of Erosion Control on a Creek Bend Affect Bank Deterioration?</i></p>	<p>8th grade Colorado Springs</p>	<p>Joshua Miller nomination to enter the 2017 Broadcom MASTERS competition for middle school students Skinner Middle School <i>Effect of Sand Grain Size on Supportiveness of a Structure During a Liquefaction Event</i></p>	<p>8th grade Denver</p>
<p>Sara Nehring nomination to enter the 2017 Broadcom MASTERS competition for middle school students Monte Vista Middle School <i>Over the Hill and Through the Codes to Encryption and Decryption We Go!</i></p>	<p>8th grade Monte Vista</p>	<p>Alex Tseng nomination to enter the 2017 Broadcom MASTERS competition for middle school students Stanley British Primary School <i>Which Waste Shouldn't Be Wasted?</i></p>	<p>7th grade Denver</p>
<p>Jason Cui nomination to enter the 2017 Broadcom MASTERS competition for middle school students Southern Hills Middle School <i>Powerful Natural Antibiotics</i></p>	<p>7th grade Boulder</p>	<p>Ellie Clark nomination to enter the 2017 Broadcom MASTERS competition for middle school students St. Columba Catholic School <i>Fabric Nanofinishing: Adventures in Textile Engineering</i></p>	<p>7th grade Durango</p>
<p>Anjali Chaparala nomination to enter the 2017 Broadcom MASTERS competition for middle school students The Classical Academy <i>Gut Less Sugar</i></p>	<p>8th grade Colorado Springs</p>	<p>Nathaniel Brim nomination to enter the 2017 Broadcom MASTERS competition for middle school students The Classical Academy <i>Depuration Kinetics of Activated Carbon With Ion Exchange Resins, Poly Filter Pad, and Freshwater Bivalves in Aqueous Solutions contaminated with Heavy Metals</i></p>	<p>8th grade Colorado Springs</p>
<p>Corey Schanker nomination to enter the 2017 Broadcom MASTERS competition for middle school students Turner Middle School <i>Kinetic Energy</i></p>	<p>8th grade Berthoud</p>	<p>Charles Rothbaum nomination to enter the 2017 Broadcom MASTERS competition for middle school students Corwin International Magnet School <i>Learning Robots</i></p>	<p>8th grade Pueblo</p>
<p>Anuradha Prakash nomination to enter the 2017 Broadcom MASTERS competition for middle school students Summit Charter Middle School <i>Pee Is for Plants</i></p>	<p>8th grade Boulder</p>	<p>Lauren Linnebur Malayne Perry nomination to enter the 2017 Broadcom MASTERS competition for middle school students Liberty Middle School <i>Student Health Literacy and Snack Consumption in Elementary and Middle Schools</i></p>	<p>7th grade 7th grade Aurora</p>



# 2017 Colorado Science and Engineering Fair Special Awards Press Release

Anika Fergusson 8th grade  
nomination to enter the 2017 Broadcom MASTERS  
competition for middle school students  
Summit Charter Middle School Boulder  
*pH and Probiotics: Is Traditional Yogurt Better?*

Olivia Greene 7th grade  
nomination to enter the 2017 Broadcom MASTERS  
competition for middle school students  
The Classical Academy Colorado Springs  
*The Need for Speed*

Elias Arredondo 6th grade  
nomination to enter the 2017 Broadcom MASTERS  
competition for middle school students  
Monte Vista On-line Academy Monte Vista  
*Fish Fertilizer: The Correlation Between Fish and Foliage*

## Intel Corporation

### *Intel Excellence in Computer Science Award*

Elliot Gorokhovskiy 12th grade  
\$200 (to be mailed), certificate  
Fairview High School Boulder  
*Adding Data-Aware Sort Optimizations to C-Python*

Weston Metzler 11th grade  
\$200 (to be mailed), certificate  
Peak to Peak Charter School Lafayette  
*Compiling to Higher Levels of Abstraction on Calculators*

## Mu Alpha Theta

### *Outstanding Achievement in Mathematics*

Elia Gorokhovskiy 10th grade  
certificate  
Fairview High School Boulder  
*A Method for the Reduction of Time Error in the Ensemble  
Adjustment Kalman Filter*

Colin Burdine 12th grade  
certificate  
Cherry Creek High School Greenwood Village  
*Determining the Complexity of Boolean Formulae Modeling  
NP Decision Problems*

## NASA

### *NASA Earth System Science Award*

Kathryn Kummel 8th grade  
certificate  
North Middle School Colorado Springs  
*Gone with the Wind: The Horseshoe Vortex Behind Tree  
Islands on Pikes Peak & Impact on Tree Growth*

Leo Foster Greer 12th grade  
certificate  
Boulder High School Boulder  
*Harvest Project: Correcting Sea State Bias*

## National Oceanic and Atmospheric Administration

### *Taking the Pulse of the Planet Award*

Kathryn Kummel 8th grade  
certificate, medal  
North Middle School Colorado Springs  
*Gone with the Wind: The Horseshoe Vortex Behind Tree  
Islands on Pikes Peak & Impact on Tree Growth*

Josephina Hoskins-Marcantonio 11th grade  
certificate, medal  
Fairview High School Boulder  
*When Even the Early Bird Is Late*

## Ricoh

### *Ricoh Sustainability Development Award*

Nicholas Huber 7th grade  
certificate  
St. Columba Catholic School Durango  
*Solar Still Design Efficiency*

Brendan Gould 9th grade  
certificate  
The Classical Academy Colorado Springs  
*Going Bananas: Using Banana Peels in Polymerization  
Reactions to Produce Thermoplastics*

## Society for In Vitro Biology

### *Outstanding Achievement in In Vitro Biology Award*

Katherine Larson 11th grade  
certificate  
Home School Colorado Springs  
*Electrical Impedance Tomography as a Tool for Detecting  
Tumors*

Hari Sowrirajan 11th grade  
certificate  
Cherry Creek High School Greenwood Village  
*Optimization of Zinc Oxide Nanoparticles for Vaccine Delivery*

## United States Metric Association

### *Outstanding Achievement in the Use of the International System Award*

Kathryn Kummel 8th grade  
certificate  
North Middle School Colorado Springs  
*Gone with the Wind: The Horseshoe Vortex Behind Tree  
Islands on Pikes Peak & Impact on Tree Growth*

Michelle Kummel 11th grade  
certificate  
Palmer High School Colorado Springs  
*Microclimatological Feedbacks at Treeline*

# 2017 Colorado Science and Engineering Fair Special Awards Press Release

## Water Environment Federation

### *Stockholm Junior Water Prize*

Michelle Ren 10th grade  
 Julianna O'Clair 10th grade  
 certificate, nomination to enter the SJWP state competition  
 Brush High School Brush  
*Energy Production of Microbial Fuel Cells*

McKinley Dirks 11th grade  
 Alexandra Rivera 11th grade  
 certificate, nomination to enter the SJWP state competition  
 SkyView Academy Highlands Ranch  
*Methods to Reduce Micropollutants in Treated Water*

Max Warnock 9th grade  
 certificate, nomination to enter the SJWP state competition  
 Poudre Global Academy Fort Collins  
*The Impact of Odor Control Clothing on Water Boatmen  
 (Corixidae)*

Eric Bear 11th grade  
 certificate, nomination to enter the SJWP state competition  
 Colorado Academy Denver  
*Determining Water Treatment Planning Using a*

### *Classification Model Neural Network*

Michael Savala 10th grade  
 certificate, nomination to enter the SJWP state competition  
 Monte Vista High School Monte Vista  
*Ferro-Solution? Can Iron Nanoparticles Help with Oil Spill  
 Clean-up?*

## Yale Science & Engineering Association

### *Outstanding Achievement in Science & Engineering Award*

Aubrey Berger 11th grade  
 certificate  
 Eaglecrest High School Centennial  
*Mechanized Collection of Organic Spider Silk*

Kyle Fridberg 11th grade  
 certificate  
 Fairview High School Boulder  
*A Novel Method of Producing Colloidal Gold Nanoparticles  
 from Gold Ore and Aqueous Sulfuric Acid*

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## Teacher

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### Lockheed Martin

#### *CSEF Teacher of the Year Award*

Lorry Getz  
 \$3,000, plaque  
 Liberty Middle School Aurora

### SparkFun Electronics

#### *SparkFun's Thank You to Educators Award*

Lorry Getz  
 certificate, SparkFun Inventor's kit (valued at \$99)  
 Liberty Middle School Aurora

Amy Melby  
 certificate, SparkFun Inventor's kit (valued at \$99)  
 Yuma High School Yuma

Terri Paulson  
 certificate, SparkFun Inventor's kit (valued at \$99)  
 Sargent Jr/Sr High School Monte Vista

Nicole Schnee  
 certificate, SparkFun Inventor's kit (valued at \$99)  
 St. Columba Catholic School Durango

John Wiley  
 certificate, SparkFun Inventor's kit (valued at \$99)  
 Challenge School Denver