DMRSEF Student Placements & Awards at the 2022 Colorado Science and Engineering Fair

BEST IN FAIR

First Place: Gitanjali Rao 11th grade
A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II
STEM School Highlands Ranch

Second Place: Rhys Hanson 11th grade
To Apogee and Beyond
Conifer High School

CATEGORY AWARDS

Junior Division Chemistry & Biochemistry

Second Place: Brigid Morin 8th grade
Nothing is Black or White: How Chemicals Affect the Amount of Light that Paint Reflects
Good Shepherd Catholic School

Senior Division Chemistry & Biochemistry

Second Place: Aryan Roy 12th grade
A Novel Liquid Embolic Agent To Treat Brain Anyuresms
Cherry Creek High School

Third Place: Shreya Sethuramalingam 9th grade
A New Water Generator; The Effects of Calcium Chloride and Silica Beads on Humidity Adsorption Rates
Cherry Creek High School

Junior Division Energy

Honorable Mention: Julian Parker & Jaiden Hwang 8th grade
Ooze to Energy
Challenge School

Senior Division Energy

First Place: Wilson Moyer 11th grade
Analyzing Non-Chemical Storage Solutions for the GridScale Energy Problem
Lakewood High School
Junior Division Engineering

First Place: Aanshi Shah 7th grade
Wheel of Fortune: A Novel Approach to Prevent Wastage of Water
Thunder Vista PK-8 School

Senior Division Engineering

First Place: Rhys Hanson 11th grade
To Apogee and Beyond
Conifer High School

Third Place: Samuel Law 11th grade
The Optimization of the Sonic Fire Extinguisher Using a Conical Collimator
Legacy High School

Junior Division Environmental Sciences

Second Place: Mathangi Kurup 7th grade
Phytoremediation of Lead Contaminated Soil Using Brassica Juncea
Challenge School

Third Place: Saahithi Kasa 8th grade
The Heat of the Matter: Increasing Relative Humidity with Soil Additives
Challenge School

Honorable Mention: Chayse Rawsky 8th grade
Ponder This: How Wildfire Smoke Affects the Growth and Health of Ponderosa Pine Trees
Friends School

Senior Division Environmental Sciences

Honorable Mention: Amanda Castillo-Lopez 10th grade
Reducing Grass Irrigation Using Sugar Cane Bagasse as Soil Amendment
Cherry Creek High School

Senior Division Mathematics & Computer Sciences

Second Place: Adam Rolander 10th grade
Analyzing the Effects of Non-Generative Augmentation on Automated Classification of Brain Tumors
Prospect Ridge Academy
Junior Division Medicine & Health

Third Place: **Avienda Schatz-Devine, Tadan Helm, & Phoenix Borten** 8th grade  
*Go with the Flow: The Relationship Between Frequency and Brainwaves*  
Friends School Boulder

Honorable Mention: **Chloë Pennington** 8th grade  
*TATAA Celiac! A Proposed Model of Celiac DNA Isolation, Intervention and Cure*  
Friends School

Senior Division Medicine & Health

First Place: **Gitanjali Rao** 11th grade  
*A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II*  
STEM School Highlands Ranch

Second Place: **Aditi Avinash** 10th grade  
*Quantitative Methods to Analyze the Synergism of Digestive Enzymes for Gluten Breakdown*  
Rock Canyon High School

Junior Division Microbiology & Molecular Biology

Second Place: **Gryffin Lawrence** 7th grade  
*Toothpaste Trauma: The Relationship Between Toothpaste and Change in Amount of Bacteria on Teeth*  
Friends School

Honorable Mention: **Dannica Ward** 8th grade  
*A Study of Yeast Strains and Sourdough Properties*  
Challenge School

Senior Division Microbiology & Molecular Biology

Honorable Mention: **Emma Seliskar** 12th grade  
*Bee Yeast*  
Evergreen High School

Junior Division Physics

Second Place: **Mary Fernandez** 7th grade  
*No More Noise!: How Cotton Density Affects Sound Level in Earmuffs*  
Good Shepherd Catholic School
SPECIAL AWARDS

Elemer Bernath Memorial Technical Writing Award
Ernest Kolesnikov & Toshiro Nagafuji 7th grade
Fox Ridge Middle School
How Different Substrates Affect Bioplastic

Senior Division Student Choice Award
Rhys Hanson 11th grade
Conifer High School
To Apogee and Beyond

Poster Art Contest Award
Aanshi Shah 7th grade
Thunder Vista PK-8 School
Wheel of Fortune: A Novel Approach to Prevent Wastage of Water

Burt Ratan Award
Julian Parker & Jaiden Hwang 8th grade
Challenge School
Ooze to Energy

Elizabeth Blackburn Award
Gryffin Lawrence 7th grade
Friends School
Toothpaste Trauma: The Relationship Between Toothpaste and Change in Amount of Bacteria on Teeth

James Patrick Allison Award
Dannica Ward 8th grade
Challenge School
A Study of Yeast Strains and Sourdough Properties

United States Navy and Marine Corps Office of Naval Research Award
Rhys Hanson 11th grade
Conifer High School
To Apogee and Beyond
Air & Waste Management Association Rocky Mountain States Section Air & Waste Management Award
Amanda Castillo-Lopez 10th grade
Cherry Creek High School
Reducing Grass Irrigation Using Sugar Cane Bagasse as Soil Amendment

American Industrial Hygiene Association Rocky Mountain Section Excellence in Protection of Occupational Health and Safety
Samuel Law 11th grade
Legacy High School
The Optimization of the Sonic Fire Extinguisher Using a Conical Collimator

American Institute of Aeronautics & Astronautics Rocky Mountain Section AIAA Aeronautics and Astronautics Award
Rhys Hanson 11th grade
Conifer High School
To Apogee and Beyond

American Vacuum Society Rocky Mountain Chapter Excellence in Physical Sciences & Engineering Award
Samuel Law 11th grade
Legacy High School
The Optimization of the Sonic Fire Extinguisher Using a Conical Collimator

Colorado Association of Science Teachers CAST Award
Amanda Castillo-Lopez 10th grade
Cherry Creek High School
Reducing Grass Irrigation Using Sugar Cane Bagasse as Soil Amendment

Colorado Biology Teacher's Association CBTA Best Biology Project
Gitanjali Rao 11th grade
STEM School Highlands Ranch
A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II

Colorado Bioscience Institute BioGENEius Challenge
Gitanjali Rao 11th grade
STEM School Highlands Ranch
A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II
Colorado Medical Society CMS Education Foundation Award
Chloë Pennington 8th grade
Friends School
*TATAA Celiac! A Proposed Model of Celiac DNA Isolation, Intervention and Cure*

Gitanjali Rao 11th grade
STEM School Highlands Ranch
*A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II*

Colorado Mycological Society Excellence in Mycological Research Award
Emma Seliskar 12th grade
Evergreen High School
*Bee Yeast*

Colorado Native Plant Society Colorado Native Plant Society Award
Chayse Rawsky 8th grade
Friends School Boulder
*Ponder This: How Wildfire Smoke Affects the Growth and Health of Ponderosa Pine Trees*

Colorado Scientific Society Excellence in Earth Science Award
Mathangi Kurup 7th grade
Challenge School
*Phytoremediation of Lead Contaminated Soil Using Brassica Juncea*

Colorado State University Department of Chemistry Excellence in Chemistry Award
Shreya Sethuramalingam 9th grade
Cherry Creek High School
*A New Water Generator; The Effects of Calcium Chloride and Silica Beads on Humidity Adsorption Rates*

Colorado State University, Energy Institute Excellence in Energy Achievement Award
Wilson Moyer 11th grade
Lakewood High School
*Analyzing Non-Chemical Storage Solutions for the GridScale Energy Problem*

Little Shop of Physics Matthew McCausland Memorial Award
Mary Fernandez 7th grade
Good Shepherd Catholic School Denver
*No More Noise!: How Cotton Density Affects Sound Level in Earmuffs*
National Security Agency, Colorado Section NSA STEM Award
Adam Rolander 10th grade
Prospect Ridge Academy
Analyzing the Effects of Non-Generative Augmentation on Automated Classification of Brain Tumors

Samuel Law 11th grade
Legacy High School
The Optimization of the Sonic Fire Extinguisher Using a Conical Collimator

Platte River Power Authority PRPA Special Award for Energy Efficiency and Innovation
Isabella Delhierro 8th grade
Challenge School
How Can the Energy Created From A Solenoid Engine Be Used To Create Electricity To Power Things?

Wilson Moyer 11th grade
Lakewood High School
Analyzing Non-Chemical Storage Solutions for the GridScale Energy Problem

PRPA Special Award for Environmental Responsibility
Anna Lucas 11th
Colorado Preparatory Academy
How Half the Water in Your Toilet Flush Could Power Your Home

Rocky Mountain Association of Geologists Excellence in Earth Science Award
Saahithi Kasa 8th grade
Challenge School
The Heat of the Matter: Increasing Relative Humidity with Soil Additives

Rocky Mountain Water Environment Association Water Research Award
Aanshi Shah 7th grade
Thunder Vista PK-8 School
Wheel of Fortune: A Novel Approach to Prevent Wastage of Water

Shrreya Sethuramalingam 9th grade
Cherry Creek High School
A New Water Generator; The Effects of Calcium Chloride and Silica Beads on Humidity Adsorption Rates
SACNAS, Colorado State University Chapter SACNAS CSU Rising Young Scientist Award
Isabella Delhierro 8th grade
Challenge School
How Can the Energy Created From A Solenoid Engine Be Used To Create Electricity To Power Things?

Anesh Ilango 6th grade
William Roberts Elementary
The Army Within Ourselves!

Science Toy Magic Physics Classroom Demonstration Award
Aanshi Shah 7th grade
Thunder Vista PK-8 School
Wheel of Fortune: A Novel Approach to Prevent Wastage of Water

Society for Mining, Metallurgy & Exploration, Colorado Section Excellence in Mineral Science & Engineering Award
Mary Fernandez 7th grade
Good Shepherd Catholic School
No More Noise!: How Cotton Density Affects Sound Level in Earmuffs

Mathangi Kurup 7th grade
Challenge School
Phytoremediation of Lead Contaminated Soil Using Brassica Juncea

Wilson Moyer 11th grade
Lakewood High School
Analyzing Non-Chemical Storage Solutions for the GridScale Energy Problem

Society of Women Engineers Rocky Mountain Section SWE Award
Aanshi Shah 7th grade
Thunder Vista PK-8 School
Wheel of Fortune: A Novel Approach to Prevent Wastage of Water

Soil & Water Conservation Society CO Chapter Natural Resource Conservation Award
Amanda Castillo-Lopez 10th grade
Cherry Creek High School
Reducing Grass Irrigation Using Sugar Cane Bagasse as Soil Amendment
Wojtaszek Family Paul Wojtaszek Memorial Award
Aditi Avinash
Rock Canyon High School
Quantitative Methods to Analyze the Synergism of Digestive Enzymes for Gluten Breakdown

Colorado School of Mines Colorado School of Mines Scholarships
Gitanjali Rao 11th grade
STEM School Highlands Ranch
A Novel Approach to Early Directional Diagnosis for Prescription Opioid Addiction - Phase II

Wilson Moyer 11th grade
Lakewood High School
Analyzing Non-Chemical Storage Solutions for the GridScale Energy Problem

Rhys Hanson 11th grade
Conifer High School
To Apogee and Beyond

Association for Women Geoscientists Outstanding Achievement in Geosciences Award
Mathangi Kurup 7th grade
Challenge School
Phytoremediation of Lead Contaminated Soil Using Brassica Juncea

Mu Alpha Theta Outstanding Achievement in Mathematics
Ethan Lou 9th grade
Cherry Creek High School
Solving the Three-Body Problem with Physics Neural Networks

National Oceanic and Atmospheric Administration Taking the Pulse of the Planet Award
Saahithi Kasa 8th grade
Challenge School
The Heat of the Matter: Increasing Relative Humidity with Soil Additives

Ricoh Ricoh Sustainable Development Award
Ernest Kolesnikov & Toshiro Nagafuji 7th grade
Fox Ridge Middle School
How Different Substrates Affect Bioplastics

Wilson Moyer 11th grade
Lakewood High School
Analyzing Non-Chemical Storage Solutions for the GridScale Energy Problem
**Broadcom MASTERS Nominations**

**Aanshi Shah** 7th grade  
Thunder Vista PK-8 School  
*Wheel of Fortune: A Novel Approach to Prevent Wastage of Water*

**Mathangi Kurup** 7th grade  
Challenge School  
*Phytoremediation of Lead Contaminated Soil Using Brassica Juncea*

**Brigid Morin** 8th grade  
Good Shepherd Catholic School  
*Nothing is Black or White: How Chemicals Affect the Amount of Light that Paint Reflects*

**Mary Fernandez** 7th grade  
Good Shepherd Catholic School Denver  
*No More Noise!: How Cotton Density Affects Sound Level in Earmuffs*

**Gryffin Lawrence** 7th grade  
Friends School  
*Toothpaste Trauma: The Relationship Between Toothpaste and Change in Amount of Bacteria on Teeth*