

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 Aneurysms
Cherry Creek High School

Third Place: **Shrreya 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

Shrreya 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

Shreya 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