Colorado Science and Engineering Fair
For Colorado Students in Grades 6 - 12
Hosted by the Center for Science, Mathematics & Technology Education

April 10 - 12, 2008
in the Lory Student Center
at Colorado State University
Fort Collins, Colorado

Colorado State Science Fair, Inc.

2008 Annual Report
The highly successful Colorado Science and Engineering Fair was enabled once again by the infrastructure, coordination, and management resources provided by the Center for Science, Mathematics, and Technology Education (CSMATE) of Colorado State University. CSMATE is a center with the mission of improving teaching and enhancing learning for all students, K-16, by developing high quality programs, and dynamic partnerships with K-12 schools, higher education, government, and business. We are most grateful for the roles of CSMATE for making both talented people and logistics available to the Colorado Science and Engineering Fair.

The Board of Directors
Colorado State Science Fair Inc.

August 31, 2008
Colorado State Science Fair, Inc.
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Fort Collins, CO  80523-1802

CSEF Director and Registered Agent:
Courtney Butler, (970) 491-7716

The Colorado State Science Fair, Inc. was established in 1977 as a private, non-profit organization to run the Colorado Science and Engineering Fair (CSEF). The CSEF has actually been held annually since 1955 and is the state-level event in a year-long process of local and regional science fairs. More than two thousand students participate in science fair programs state-wide. The purpose of the CSEF is to stimulate student interest and encourage students in science and engineering through recognition of their research knowledge, ability and achievement.

Each year, a number of experiences are made available to the student finalists who participate in the CSEF. Tours of university and local corporate research facilities provide opportunities for students and their families to see research in action. Additionally, the judges’ interviews allow the finalists a chance to interact with professional scientists and engineers. Over the years, many students have said that having the chance to meet and speak with their peers about their science projects is the most beneficial aspect of the Colorado Science and Engineering Fair.

In addition to getting the opportunity to interact with working scientists, CSEF finalists compete for awards in the categories of Animal Sciences, Behavioral & Social Sciences; Chemistry; Earth and Space Sciences; Energy & Transportation, Engineering; Environmental Sciences; Mathematics and Computer Sciences; Medicine & Health; Microbiology; Physics; and Plant Sciences – either as an individual or as a team project. Recognition for outstanding research in each of these categories as well as an award for technical writing are presented each year at the CSEF Awards Ceremony. The top two Senior Division individual projects and the top Senior Division team project are awarded trips to compete at the Intel International Science and Engineering Fair (Intel ISEF).

From start to finish, and at all levels of participation, the science fair experience is one not only of competition, but also of camaraderie, creativity, cooperation, and education. This is the essence of the logo for the Colorado Science and Engineering Fair.
The fifty-third Colorado Science and Engineering Fair was held at the Lory Student Center on the Colorado State University campus on April 10 - 12, 2008.

This year, CSEF winners were chosen from among 286 projects represented by 321 finalists from 71 schools and 13 regions within the state. More than 100 professional scientists, engineers and mathematicians interviewed the students and evaluated their projects before selecting the Grand Award winners. In addition, over 60 businesses, professional societies, and government agencies provided more than 150 of their own representatives to judge exhibits based on their own criteria. They judged the student finalists and conferred Special Awards which represented an aspect of the bestowing organization. These included college scholarships, offers of summer employment, field trips, cash, savings bonds, and scientific equipment. Over 1,000 people attended the Awards Ceremony this year.

The 2008 Colorado Science and Engineering Fair had 24 sponsors. Sponsors included 13 Platinum Sponsors (providing over $2,500 of support each), 5 Gold Sponsors ($1,000 or more of support each), 1 Silver Sponsor ($750 or more of support each) and 11 Regular Sponsors ($500 or more of support each). In addition, there were 15 Financial Contributors (less than $500 each). Also, several individuals donated through the Denver Combined Federal Campaign.

Scholarships from Adams State College, Colorado School of Mines, and University of Colorado - Boulder were also presented. Adams State College awarded thirteen one-year full scholarships for resident tuition and fees.

The Colorado School of Mines awarded six four-year half resident tuition scholarships.

The University of Colorado at Boulder awarded four partial scholarships. The Intel Foundation also awarded a $2,000 scholarship to a twelfth grader in the name of Ryan Patterson (Intel ISEF top winner in 2001) for use at the college or university of his/her choice.

This year, the CSEF was honored to have guest speaker William Johns, Chief Engineer of the Orion Crew Exploration.

In this role, Mr. Johns is responsible for all of the technical products and processes for the Orion contractor team. Prior to being selected to lead the technical effort of CEV, he served as Director of Development for the Atlas V/Evolved Expendable Launch Vehicle (EELV). Mr. Johns has worked on the development, integration, and launch of new modified upper stage systems since he started with Martin Marietta in 1980. He has spent much of his career working on the Centaur cryogenic upper stage, beginning with the Shuttle/Centaur development activity, and including the Titan/Centaur and evolved versions of the Atlas/Centaur. He moved to San Diego in 1983 and back to Denver in 1994 when General Dynamics Space Systems joined with Lockheed Martin.

Mr. Johns obtained his Bachelors of Science degree in Chemical Engineering from Stanford University in 1978 and his Masters of Science degree from the University of Pennsylvania in 1979. Mr. Johns is a Colorado native and enjoys mountaineering, skiing and tennis.

(See Appendix 1 – 2008 CSEF Schedule)
The top Senior Division individual project exhibitor of the 53rd Colorado Science and Engineering Fair and winner of an all-expense paid trip to compete in the Intel International Science and Engineering Fair (Intel ISEF) was Gwyneth Glissmann, Peak to Peak Charter School, Lafayette, grade 11, for the project *Analyzing Arctic Solar Flux and Ice Extent Loss Projection*. Second place for best individual project, and also a winner of an all-expense paid trip to compete at the Intel ISEF was Sarah Guthrie, Boulder High School, Boulder, grade 11, for the project *The Mechanisms And Actions Of Parthenolide On Platelet 5-HT*. Awarded third place for best individual project was Ben Armstrong, Monte Vista High School, Monte Vista, grade 10, for the project *Enemies Of The Environment: Estrogen Mimics*. The first place Senior Division team project and winners of an all-expense paid trip to compete in the Intel ISEF were Danielle Pite, Kelly Lane and Anna Hermann, Boulder High School, Boulder, grade 12, for the project *Disymposphenia geminate: The Core Question*.

The winner of the Ralph F. Desch Memorial Technical Writing Award was Sarah Guthrie from Boulder High School, Boulder, grade 11, for the project *The Mechanisms And Actions Of Patheonolide On Platelet 5-HT*. The winner of the Lockheed Martin CSEF Teacher of the Year Award was Doug Steward of Monte Vista High School, Monte Vista. Mr. Steward received a $3,000 grant to use towards scientific research in his classroom and school.

Knowing that science throughout history has progressed in a series of fits and starts, and knowing that the pioneers of science probably did not show genius if their first scientific endeavors, the Board of Directors of the Colorado Science and Engineering Fair has created this series of Pioneers of Science Awards to encourage our youngest scientists to endeavor to achieve greatness: Brianna Honebein, Ward Middle School, Ordway, grade 7; Dirk Marshall, Cherry Creek Challenge, Denver, grade 7; Lizette van Zyl, Boltz Junior High School, Fort Collins, grade 8; Melissa Poet, Arriba-Flagler Public School, Flagler, grade 7; Tanner Dunivan, Walsh Jr/Sr High School, Walsh, grade 7; Isaac Beverlin, Delores Middle School, Delores, grade 6; Antonio Huizar, Quest Academy, Dacon, grade 7; Jessika Gill, Merino Jr/Sr High School, Merino, grade 7; Kayla Boren, St. Columba School, Durango, grade 6; Ken Garcia, Brush Middle School, Brush, grade 8; Joshua Steklac, Mackintosh Academy, Littleton, grade 8; Chayenne Jackson, Me- rino Jr/Sr High School, Merino, grade 7; Carlos Nunez, La Veta Elementary School, La Veta, grade 6; Devon Montague, Centauri Middle School, La Jara, grade 7; Kaley Kukus, Woodlin School, Woodrow, grade 7; Layne McCaleb, Arickaree School, Anton, grade 6; Dayton Fisher, Yuma Middle School, Yuma, grade 6; and Rachael Gessert, West Jefferson Middle School, Conifer, grade 7; Madison Dewey, North Middle School, Colorado Springs, grade 6.

The winner of the Poster Art Contest was Boya Lui, Fairview High School, Boulder.

The winner of the Intel ISEF was Gwyneth Glissmann, Peak to Peak Charter School, Lafayette, grade 11, for the project *Analyzing Arctic Solar Flux and Ice Extent Loss Projection*. Second place for best individual project, and also a winner of an all-expense paid trip to compete at the Intel ISEF was Sarah Guthrie, Boulder High School, Boulder, grade 11, for the project *The Mechanisms And Actions Of Parthenolide On Platelet 5-HT*. Awarded third place for best individual project was Ben Armstrong, Monte Vista High School, Monte Vista, grade 10, for the project *Enemies Of The Environment: Estrogen Mimics*. The first place Senior Division team project and winners of an all-expense paid trip to compete in the Intel ISEF were Danielle Pite, Kelly Lane and Anna Hermann, Boulder High School, Boulder, grade 12, for the project *Disymposphenia geminate: The Core Question*.

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ADAMS STATE COLLEGE
Brandy Haller, Woodlin School, Woodrow, grade 10, for the project Comparison Of Mountain Pine Beetle In Colorado And Surrounding States
Kenzie Witt, Arriba-Flagler Public School, Flagler, grade 10, for the project Reading: Beyond Black & White
Shelby Messer, Genoa-Hugo High School, Hugo, grade 10, for the project Color To Dye For
Bryant Elrick, Arriba-Flagler Public School, Flagler, grade 11, for the project Just Passing Through
Darla Rosenbrock, Brush High School, Brush, grade 10, for the project, Energy Content In Different Biodiesel
Cahl Johnson, Kim School, Kim, grade 9, for the project Rocketry: Does Size Matter
Ben Armstrong, Monte Vista High School, Monte Vista, grade 10, for the project Enemies Of The Environment: Estrogen Mimics
Bethany Dilda, Branson School, Branson, grade 10, for the project The Golden Ratio In Natural Adaptations
Jessie Haugen, Sargent Jr/Sr High School, Monte Vista, grade 11, for the project What’s The Pus? Preventing Staphylococcus Epidermidis Growth in Surgical Procedures
Erika Baker, Merino Jr/Sr High School, Merino, grade 10, for the project Eye Can’t See Clearly Now! A Comparison Study Of Contact Types With E. coli And S. epidermis
Antonia Lira, Lamar High School, Lamar, grade 10, for the project Pig-In-A-Blanket
Royce Hoffner, Home School, Center, grade 10, for the project Stage Specific Expression Of Peroxidase Enzymes In Wound Healing Potato Tubers
Tyler Wilson, grade 11, Nuala Del Piccolo, grade 12, and Chiara Del Piccolo, grade 10, Basalt High School, Basalt, for their project Mudslide Effect On Macroinvertebrate Diversity

COLORADO SCHOOL OF MINES
Bryant Elrick, Arriba-Flagler Public School, Flagler, grade 11, for the project Just Passing Through
Dong-Kou Kim, Fountain Valley School, Colorado Springs, grade 11, for the project Piezo Generator
Michael Crane, Cherry Creek High School, Greenwood Village, grade 11, for the project A Disease Model Of XDR-TB
Colin Dutro, Genoa-Hugo School, Hugo, grade 11, for the project Do You See What I Hear?
Grant Slinger, Stratton High School, Stratton, grade 11, for the project Effects Of Soil Type On Groundwater Contamination, Phase II
David Wu, Cherry Creek High School, Greenwood Village, grade 11, for the project Charcoal And Methanol Production By The Destructive Distillation Of Cellulosic Waste

UNIVERSITY OF COLORADO
Nicole Reeves and Ethan Merritt, Wray Jr/Sr High School, Wray, grade 11, for the project Paycheck Performance
Marlena Widman, The Classical Academy, Colorado Springs grade 10, for the project Junkyard Multispectral Imaging
Max Krakauer, Palmer High School, Colorado Springs, grade 12, for the project Testing The Effects Of Gasoline, E-85 Gasoline Mix, And 2.5-Dimethylfuran On Saccharomyces cerevisia

RYAN PATTERSON SCHOLARSHIP
The Ryan Patterson Scholarship is in honor of the Intel ISEF top winner of 2001. The Intel Foundation in Colorado Springs funds this scholarship and the winner can use it at the school of his/her choice. The 2008 winner was Andrew West, Conifer High School, Conifer, grade 12, for the project Regenerative Diesel Fuel Production Utilizing Vegetable Oil And Catalytic Hydrocracking.

(See Appendix 2 – CSEF Press Release)
2008 Intel International Science and Engineering Fair

The Intel International Science and Engineering Fair, the world’s largest pre-college science fair, brings together more than 1,500 of the most curious and capable young science pioneers from more than 50 countries to share ideas, showcase cutting-edge science and compete for over $4 million in awards and scholarships. The Intel ISEF is the world’s only international science fair representing all sciences for students in grades 9 through 12. The Intel ISEF has been coordinated for 59 years by Society for Science & the Public (formerly Science Service) one of the most respected non-profit organizations advancing the cause of science.

Colorado students from around the state were among the award winners at the 59th Intel ISEF held in Atlanta, GA, May 11 – 16, 2008.

Grand Awards

Kaitlyn Lingus from Trinchera, CO won $1,500 (2nd Place) in Plant Sciences.

Lindsey Dennison from Paonia, CO won $1,000 (3rd Place) in Animal Sciences.

Aarthi Shankar from Colorado Springs, CO won $500 (4th Place) in Biochemistry.

Gwyneth Glissman from Boulder, CO won $500 (4th Place) in Earth & Planetary Sciences.

Andrew West from Conifer, CO won $500 (4th Place) in Materials Sciences & Bioengineering.

Chace Carver from Merino, CO won $500 (4th Place) Medicine & Health.

Anika Petach & Tanya Petach from Boulder, CO won $500 (4th Place) in the Team Category.

Special Awards

Gwyneth Glissman won $1,500 (1st Place) from the American Geological Institute. Gwyneth also won $2,000 (1st Place) from the American Meteorological Society

Sarah Guthrie from Boulder, CO won $500 (2nd Place) from the Endocrine Society

Aarthi Shankar won $250 (4th Place) from the American Association for Clinical Chemistry.

Government Awards

Gwyneth Glissman won three $1,000 US savings bonds from the United States Army. Gwyneth also won an $8,000 scholarship from the Office of Naval Research on behalf of the U.S. Navy and Marine Corps

Kaitlyn Lingus won $1,500 (2nd Place) from the United States Air Force.

Andrew West won $3,000 (1st Place) from the United States Air Force.
ORGANIZATION

The success of the yearly Colorado Science and Engineering Fair is directly dependent upon the support of public and private organizations, government agencies, school districts and universities, as well as the efforts of hundreds of committed volunteers. It is no exaggeration to say that CSEF volunteers indeed make the event possible. At the state level, there is the Board of Directors (which is comprised of volunteers from the sponsoring organizations and oversees the operation of the CSEF and the non-profit organization); the Advisory Council (volunteers from around the state who are on the CSEF Working Committees to make sure everything operates smoothly at the event); judges (both for Grand and Special Awards who interview the finalists and choose the winners); and hundreds of on-site volunteers who do the actual work of the CSEF. Prior to the state event, thirteen regional science fairs and a large number of local school science fairs are conducted throughout the state, and each of these is supported and promoted by hardworking and dedicated educators. And before a student’s project even makes it to a local science fair, it requires the encouragement and support from individual teachers, adult sponsors, and parents to help students see their projects through from inception to finished exhibit. The Colorado Science and Engineering Fair is a product of all of these people.

MISSION STATEMENT

Colorado State Science Fair, Inc. honors excellence in science, engineering, and technology; providing opportunities for students from all regions of the state to create and present their research in environments that nurture interests in science and technology; promoting professional skills, high ethical standards, diversity and continuing intellectual development.

GOALS AND OBJECTIVES

The Colorado State Science Fair, Inc. is an organization that:

- Organizes the infrastructure of the Colorado Science and Engineering Fair for students from all regions of the state of Colorado to present science projects to judges, representatives of scientific organizations, the public and their peers;
- Honors winners from Colorado regional science fairs at the annual Colorado Science and Engineering Fair;
- Sends finalists from the state of Colorado to the Intel International Science and Engineering Fair (Intel ISEF);
- Provides experiences for Colorado students to interact with their peers, Colorado science teachers and Colorado scientists and engineers in professional and social settings;
- Promotes science, engineering and technology as careers, inspiring excellence, high ethical standards and emphasizing the immense satisfaction that comes from confronting and solving intellectual problems that serve societal needs;
- Reinforces in students the wonder nature instills, wherever and however possible, empowering them to follow their questions and dreams; and
- Encourages a culture that values and nurtures diversity.

We support regional science fairs by:

- Acting as an alternative to the Science Service affiliation as a means of attending the Intel ISEF;
- Providing a forum where regional science fairs can influence policies, rules and by-laws for the state science fair;
- Providing rules and requirements for participation in the Colorado Science and Engineering Fair;
- Facilitating communication, where practical, between regional science fairs and their participants;
- Providing information and resources to the regional fair directors, teachers and students which will promote interest in science, engineering and technology, and excellence in scientific research;
- Increasing public awareness and appreciation of science, engineering and technology in the schools.
CSEF SPONSORS

PLATINUM SPONSORS
(Providing over $2,500 in support of CSEF)
- Agilent Technologies
- BP America
- Colorado Dental Association
- Colorado State University – Office of the Provost/Senior Vice President
- Colorado State University – College of Natural Sciences
- Hach Scientific Foundation
- Intel Foundation
- Lockheed Martin
- Qwest
- Society of Petroleum Engineers
- US Department of Commerce/NTIA/ITS
- Xcel Energy Foundation

GOLD SPONSORS
(Providing $1,000 - $2,500 in support of CSEF)
- Colorado Medical Society Education Foundation
- Colorado State University - Center for Science, Mathematics & Technology Education
- LSI Corporation
- University of Colorado - College of Engineering & Applied Sciences

REGULAR SPONSORS
(Providing $500 - $750 in support of CSEF)
- Anheuser-Busch, Inc.
- Canberra Industries
- Colorado Engineering Council
- Denver Chapter of the IEEE Lasers and Electro-Optics Society
- ICAT Managers
- Robert Lamperuer
- National Renewable Energy Laboratory
- John Edward Parker Trust
- San Luis Valley Regional Science Fair, Inc.
- US Department of Commerce/NOAA

CONTRIBUTORS
(Providing up to $500 in support of CSEF)
- Ed and Lucy Adams
- Sam and Eileen Bartlett
- Cherry Creek Basin Water Quality Authority
- Colorado Geological Survey
- Gina Holland & Isaac Britton
- David & Vonda Holm
- Kristi Mountain Sports
- Marjorie McLellan
- Dr. Robert Morrow
- Pro Sports
- Sundyne Corporation
- Villa Pizza & Butler Pizza Company
- Wal-Mart
- Many federal employees also contributed through the Combined Federal Campaign
**CSEF Advisory Council**
The CSEF Advisory Council is comprised of the Board of Directors, the Regional Fair Directors and Assistant Directors, and many at-large members.

**CSSF Board of Directors**

- **Canberra Industries**
  - Mike Bemski – President
  - Regular Member since 2002

- **Colorado Dental Association**
  - Carol Morrow - Secretary
  - Regular Member since 2002

- **Colorado Engineering Council**
  - Sam Bartlett – Treasurer
  - Regular Member since 2001

- **US Department of Commerce/NOAA**
  - Al Bedard
  - Regular Member since 1996

- **University of Colorado**
  - John Bennett
  - Regular Member since 2005

- **Morgan Washington Bi-County RSF**
  - Elem Bernath
  - Associate Member since 2002

- **Xcel Energy**
  - Dave Cenedella
  - Regular Member since 2008

- **Colorado Engineering Council**
  - Gina Holland
  - Regular Member since 1991

- **San Luis Valley Regional Science Fair, Inc.**
  - David Holm
  - Regular Member since 1997

- **Colorado Medical Society**
  - A. Bill Kieger
  - Regular Member since 2002

- **US Department of Commerce/NOAA**
  - Dan Kowal
  - Regular Member since 2007

- **National Renewable Energy Laboratory**
  - Linda Lung
  - Regular Member since 2006

- **Lockheed Martin Space Systems Company**
  - Bill Meersman
  - Regular Member since 2007

- **Colorado Dental Association**
  - Bob Morrow
  - Regular Member since 1995

- **Colorado State University**
  - Jan Nerger
  - Regular Member since 2003

- **John Edward Parker Trust**
  - Amanda Parker
  - Regular Member since 2007

- **John Edward Parker Trust**
  - John Parker
  - Regular Member since 2002

- **University of Colorado**
  - Ryan Patterson
  - Regular Member since 2004

- **ICAT Managers**
  - Brian Scriber
  - Regular Member since 2005

- **San Luis Valley Regional Science Fair, Inc.**
  - Larry Sveum
  - Regular Member since 2007

- **Colorado State University**
  - Stephen Thompson
  - Regular Member since 2005

- **US Department of Commerce/NTIA**
  - Amy Weich
  - Regular Member since 2000

- **Canberra Industries**
  - Paul Wojtaszek
  - Regular Member since 2006
**REGIONAL FAIR DIRECTORS**

<table>
<thead>
<tr>
<th>Regional Science Fair</th>
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<tbody>
<tr>
<td>Arkansas Valley Regional Science Fair</td>
<td>Aaron Reyes and Joel Gray</td>
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<td>Boulder Valley Regional Science Fair</td>
<td>Jennifer Barr</td>
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<td>Denver Metro Regional Science Fair</td>
<td>Jim Stevens and Kristina Wenzel</td>
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<td>East Central Regional Science Fair</td>
<td>William Mallory and Marguerite Yowell</td>
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<td>Longs Peak Regional Science Fair</td>
<td>Lori Ball</td>
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<td>Morgan/Washington Regional Science Fair</td>
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<td>Northeast Regional Science Fair</td>
<td>Kari Kilmer and Penny Propst</td>
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<td>Pikes Peak Regional Science Fair</td>
<td>Georgia Matteson</td>
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<td>San Juan Basin Regional Science Fair</td>
<td>Jeff Hatfield</td>
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<td>San Luis Valley Regional Science Fair</td>
<td>Lucy Adams</td>
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<td>Southeast Regional Science Fair</td>
<td>Terri Lira and Robin Staker</td>
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<td>Southern Colorado Regional Science Fair</td>
<td>Carol Crossley and Glenda Macklin</td>
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<td>Western Regional Science Fair</td>
<td>Sandy Cruz and Rob Robison</td>
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**MEMBERS AT LARGE**

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<th>Name</th>
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<tr>
<td>Judy Cara</td>
<td>Linda Carlson</td>
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<td>David Clark</td>
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<td>Nancy Gettman</td>
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<td>Charles Johnson</td>
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<td>Beverly Meier</td>
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<td>Candus Muir</td>
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<td>Judy Prester</td>
<td>Rod Simpson</td>
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<td>Jim Sites</td>
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<td>Laura Ussery</td>
<td>Dan Van Gorp</td>
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<td>Amber Wolf</td>
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**PAST CSEF DIRECTORS**

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<tr>
<th>Name</th>
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<tr>
<td>* Charles Bragaw</td>
<td>1956 – 1967</td>
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<td>*Calvin Fisher</td>
<td>1968 – 1974</td>
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<td>*Sam Shushan</td>
<td>1975 – 1977</td>
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<td>Gordon Moore</td>
<td>1978 – 1979</td>
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<td>*Russell B. Stoner</td>
<td>1979 – 1981</td>
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<td>James R. Sites</td>
<td>1984 – 1985</td>
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<td>Lloyd Walker</td>
<td>1986 – 1988</td>
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<td>Lynn Butler</td>
<td>1991 – 1992</td>
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<td>Kate Taylor</td>
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<td>Christal McDougall</td>
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<td>Lucy Adams</td>
<td>1998 – 1999</td>
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<tr>
<td>Courtney Butler</td>
<td>1999 – present</td>
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* Director Emeritus for outstanding contributions to CSEF and more than two years of service as CSEF Director.
WORKING COMMITTEES

**Alumni**
The focus of this committee is to create ways in which CSEF Alumni can continue to be active in the fair each year (i.e.: recruiting them as judges, volunteers, and/or sponsors) by keeping in contact with graduated seniors.

**Awards Ceremony**
The focus of this committee is the smooth running of the Awards Ceremony and winner recognition.

**Display & Safety**
The focus of this committee is to oversee the volunteers who check Finalists’ projects for display and safety rules compliance.

**Grand Awards Judging**
The focus of this committee is to coordinate the recruitment and category assignments of judges. The committee also oversees the work of the judges during the fair, collects and reports the results to the Awards Ceremony committee.

**Photography**
The focus of this committee is to coordinate the volunteers who take the official photo of Finalists at their projects and the photo of winners at the Awards Ceremony. This committee is also responsible for sending a copy of the official photo to the Finalist, their Regional Fair Director and the CSEF Director.

**Publicity**
The focus of this committee is to maintain a current list of media contacts around the state of Colorado and to send out press releases to these contacts as deemed appropriate to gain exposure for CSEF. This committee is also responsible for inviting VIPs and media contacts to CSEF for interaction with the Finalists.

**Registration**
The focus of this committee is to maintain and prepare Finalist registration materials for SRC review and check-in at CSEF.

**Room Set-Up**
The focus of this committee is to design the layout of the exhibit hall space, taking into account electrical, floor and table space requirements. This committee is also responsible for coordinating with the Lory Student Center for room and material needs and to coordinate the exhibit space set-up at CSEF.

**Scholarships**
This committee is comprised of representatives from the colleges, universities and organizations providing scholarship money to Finalists through CSEF. Members are responsible for updating the scholarship descriptions each year and advising their institutions of any changes made by CSEF that might affect the number or type of scholarships given.

**Scientific Review**
The focus of this committee is to review Finalist paperwork for compliance with the ISEF rules and guidelines for student scientific research. The SRC must be comprised of a biomedical scientist (Ph.D., MD, DVM, DDS or DO), a science teacher, and at least one other person.

**Special Awards**
The focus of this committee is to solicit organizations to give special awards to Finalists based on criteria that the organization sets. This committee is also responsible for overseeing the special award judging process during the fair and report the results to the Awards Ceremony committee.

**Student Activities**
The focus of this committee is to arrange for the pizza party on Saturday and the guest speaker on Friday.

**Tours**
The focus of this committee is to arrange for tours and/or presentations of local/university science labs for the Finalists.

**Volunteer Coordination**
The focus of this committee is to arrange for volunteers to help with photography, display & safety, registration, room set-up, door monitoring, and the awards ceremony. This committee is also responsible for directing volunteers at CSEF.
Appendix 1
53rd Annual Colorado Science and Engineering Fair
Lory Student Center Fair Headquarters: 2nd Floor Lobby Colorado State University

Thursday, April 10, 2008

Finalist Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 AM – 11:00 AM</td>
<td>Tour Ticket Sales</td>
<td>Room 213/215</td>
</tr>
<tr>
<td>8:30 AM – 11:30 AM</td>
<td>SRC Interviews – Finalists requiring an interview must comply <strong>BEFORE</strong> project may be set up.</td>
<td>Room 203/205</td>
</tr>
<tr>
<td>9:00 AM – 11:00 AM</td>
<td>Finalist Check-In</td>
<td>Registration Booth</td>
</tr>
<tr>
<td></td>
<td>Finalists MUST stay with their exhibit until Display &amp; Safety Check has been completed and an Official Photo has been taken. Finalists must be out of the exhibit area by noon.</td>
<td></td>
</tr>
<tr>
<td>1:00 PM – 1:20 PM</td>
<td>Finalist Orientation Meeting – Mandatory for all exhibitors.</td>
<td>CSU Theater</td>
</tr>
<tr>
<td>1:30 PM – 5:00 PM</td>
<td>Judging – Finalists must be at their exhibits for interviews.</td>
<td>Main Ballroom</td>
</tr>
</tbody>
</table>

Adult Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:00 PM – 3:30 PM</td>
<td>Regional Fair Director’s Meeting</td>
<td>Room 213/215</td>
</tr>
<tr>
<td>3:30 PM – 4:30 PM</td>
<td>ISEF Rule Updates for 2009</td>
<td>Room 213/215</td>
</tr>
<tr>
<td>2:00 PM – 5:00PM</td>
<td>Intro to Small-Scale Science in Student Research for Teachers</td>
<td>B322 NESB (CSMATE)</td>
</tr>
</tbody>
</table>

Judging Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15 AM – 11:00 AM</td>
<td>Grand Awards Judging Captains’ Briefing</td>
<td>Room 230</td>
</tr>
<tr>
<td>10:15 AM -- 10:45 AM</td>
<td>New Grand Awards Judges’ Briefing</td>
<td>Room 224/226</td>
</tr>
<tr>
<td>11:00 AM -- 11:30 AM</td>
<td>Grand Awards Judges’ Briefing</td>
<td>Cherokee Park Room</td>
</tr>
<tr>
<td>11:30 AM - 12:30 AM</td>
<td>Grand Awards Judges’ Luncheon</td>
<td>North Ballroom</td>
</tr>
<tr>
<td>12:15 PM – 12:30 PM</td>
<td>Special Awards Judges’ Briefing</td>
<td>Room 228</td>
</tr>
<tr>
<td>12:00 PM – 5:00 PM</td>
<td>Judging</td>
<td>Main Ballroom</td>
</tr>
<tr>
<td>12:00 – 12:30 PM</td>
<td>Grand Awards Judges only in the exhibit rooms.</td>
<td></td>
</tr>
<tr>
<td>12:30 – 1:30 PM</td>
<td>Special Award Judges may enter the exhibit areas. Judges only in the exhibit rooms.</td>
<td></td>
</tr>
<tr>
<td>1:30 – 5:00 PM</td>
<td>Students will be at their exhibits for interviews.</td>
<td></td>
</tr>
<tr>
<td>5:30 PM</td>
<td>Exhibit areas are locked. Final Judging continues.</td>
<td></td>
</tr>
</tbody>
</table>

**No one else is permitted in the exhibit area at this time.**

Friday, April 11, 2008

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 AM – 5:00 PM</td>
<td>CSEF Open to the Public</td>
<td>Main Ballroom</td>
</tr>
<tr>
<td>9:00 AM – 10:00 AM</td>
<td>Guest Speaker: William Johns Chief Engineer for the NASA Orion Program</td>
<td>CSU Theatre</td>
</tr>
<tr>
<td>10:30 AM – 3:00 PM</td>
<td>Tours: Students, sponsors, families, and judges are invited to participate in the tours.</td>
<td></td>
</tr>
<tr>
<td>2:00 PM</td>
<td>Finalist Ballots for Student Choice and Poster Contest are due.</td>
<td>Registration Booth</td>
</tr>
<tr>
<td>7:00 PM</td>
<td>Awards Ceremony</td>
<td>Resurrection Fellowship</td>
</tr>
</tbody>
</table>

Saturday, April 12, 2009

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 AM – 11:00 AM</td>
<td>CSEF Open to the Public – Finalist must be at their projects for interaction with the public.</td>
<td>Main Ballroom</td>
</tr>
<tr>
<td>9:00 AM – 11:00 AM</td>
<td>Advisory Council Meeting – open to all</td>
<td>Room 213/215</td>
</tr>
<tr>
<td></td>
<td>Pizza Party: Sponsored by <strong>Lockheed Martin</strong> and provided by <strong>Villa Pizza</strong> for Finalists, sponsors, families and judges. Finalists must be present to win door prizes!</td>
<td>Room 213/215</td>
</tr>
<tr>
<td>11:00 AM – 12:00 PM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 PM – 1:00 PM</td>
<td>Exhibit Dismantling</td>
<td></td>
</tr>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Board of Director’s Meeting – open to all</td>
<td>Room 213/215</td>
</tr>
</tbody>
</table>

# 2008 Colorado Science and Engineering Fair
## Grand Awards Press Release

### Junior Division Best Individual Project

<table>
<thead>
<tr>
<th>First Place</th>
<th>Molly Graber 8th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Effects Of Bovine Colostrum On Breast Cancer</strong></td>
<td>North Middle School Colorado Springs</td>
</tr>
<tr>
<td>Second Place</td>
<td>Zane Willburn 7th grade</td>
</tr>
<tr>
<td><strong>Water Purification Off The Grid</strong></td>
<td>Mancos Middle School Mancos</td>
</tr>
<tr>
<td>Third Place</td>
<td>Garret Cerny 6th grade</td>
</tr>
<tr>
<td><strong>Is It Easier To Always Be Right?</strong></td>
<td>Eagle County Carter Academy Wolcott</td>
</tr>
</tbody>
</table>

### Senior Division Best Individual Project

<table>
<thead>
<tr>
<th>First Place</th>
<th>Gwyneth Glissmann 11th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analyzing Arctic Solar Flux and Ice Extent Loss Projections</strong></td>
<td>Peak to Peak Charter School Lafayette</td>
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<tr>
<td>Second Place</td>
<td>Sarah Guthrie 11th grade</td>
</tr>
<tr>
<td><strong>The Mechanisms And Actions Of Parthenolide On Platelet 5-HT Secretion In Vitro</strong></td>
<td>Boulder High School Boulder</td>
</tr>
<tr>
<td>Third Place</td>
<td>Ben Armstrong 10th grade</td>
</tr>
<tr>
<td><strong>Enemies Of The Environment : Estrogen Mimics</strong></td>
<td>Monte Vista High School Monte Vista</td>
</tr>
</tbody>
</table>

### Junior Division Best Team Project

<table>
<thead>
<tr>
<th>First Place</th>
<th>Loren Koszowski &amp; Anna Mellman 7th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Who Would You Rather Kiss?</strong></td>
<td>Stanley British Primary School Denver</td>
</tr>
<tr>
<td>Second Place</td>
<td>Claire Derr &amp; Allison Gudvangen 7th grade</td>
</tr>
<tr>
<td><strong>Fill Up Not Freeze Up</strong></td>
<td>North Middle School Colorado Springs</td>
</tr>
<tr>
<td>Third Place</td>
<td>Matthew Mandelski &amp; Zofie Madelski 7th grade</td>
</tr>
<tr>
<td><strong>The Healthiest Spirogyra</strong></td>
<td>St. Columba School Durango</td>
</tr>
</tbody>
</table>

### Honorable Mention

<table>
<thead>
<tr>
<th>Second Place</th>
<th>Kendra Gomez &amp; Alixx Vigil 7th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cash, Credit, Coins</strong></td>
<td>Pueblo School for Arts and Sciences Pueblo</td>
</tr>
</tbody>
</table>

### Senior Division Best Team Project

<table>
<thead>
<tr>
<th>First Place</th>
<th>Danielle Pite, Kelly Lane &amp; Anna Hermann 12th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Didymosphenia geminata: The Core Question</strong></td>
<td>Boulder High School Boulder</td>
</tr>
<tr>
<td>Second Place</td>
<td>Anika Petach 11th grade</td>
</tr>
<tr>
<td>Tanya Petach 9th grade</td>
<td></td>
</tr>
<tr>
<td><strong>Pine Beetle Outbreaks: Spatial Analysis And Pheromone Population Control</strong></td>
<td>Fairview High School Boulder</td>
</tr>
<tr>
<td>Third Place</td>
<td>Julia Buzan &amp; Joseph Smith 12th grade</td>
</tr>
<tr>
<td><strong>Determining A Non-Contact Method For Testing Skin Elasticity And Density</strong></td>
<td>Cherry Creek High School Greenwood Village</td>
</tr>
</tbody>
</table>

### Honorable Mention

<table>
<thead>
<tr>
<th>Second Place</th>
<th>Tonya Pavlekno &amp; Laura Gudvangen 9th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Superbug: How It Spreads</strong></td>
<td>Palmer High School Colorado Springs</td>
</tr>
</tbody>
</table>

### Junior Division Animal Sciences

<table>
<thead>
<tr>
<th>First Place</th>
<th>Nakayla Lestina 8th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biological Control Of Canada Thistle Phase 2 Analyzing The Spread Of Three Natural Insect Enemies</strong></td>
<td>Dove Creek Middle School Dove Creek</td>
</tr>
<tr>
<td>Second Place</td>
<td>Wyatt Palser 7th grade</td>
</tr>
<tr>
<td><strong>Attack Of The Killer Worms!!!</strong></td>
<td>Otis Jr/Sr High School Otis</td>
</tr>
<tr>
<td>Third Place</td>
<td>Sarah Reed 8th grade</td>
</tr>
<tr>
<td><strong>Supersize Me! The Effect Of Junk Food On Mice</strong></td>
<td>Summit Middle School Boulder</td>
</tr>
</tbody>
</table>
Appendix 2

Honorable Mention
Rennie Winkelman 8th grade
What Size Of Sand Does The Aquatic Worm T. tubifex Prefer?
Blevins Junior High School Fort Collins

Honorable Mention
Rebecca Roskowski 8th grade
Are Crawfish That Fish Eat Contributing To High Mercury Levels In Large Fish In The Colorado River Basin?
East Middle School Grand Junction

Honorable Mention
Dirk Marshall 7th grade
The Eyes Have It: Do Your Eyes Show Your Personality?
Cherry Creek Challenge School Denver

Honorable Mention
Codi Inloes-Williams 6th grade
Making Cents Of H2O
Timberview Middle School Colorado Springs

Honorable Mention
Alexandra Kirschbaum 7th grade
Wake Up! A Comparative Study Between Sleep And Mood
Merino Jr/Sr High School Merino

Senior Division Animal Sciences
First Place
Lindsey Denison 11th grade
The Onion Thrip Trick
Paonia Jr/Sr High School Paonia

Second Place
Connie Liu 9th grade
Classification And Evolutionary Biology Of Solifugids By Rostrum
Cherry Creek High School Greenwood Village

Third Place
Brandy Haller 10th grade
Comparison Of Mountain Pine Beetle In Colorado And Surrounding States
Woodlin School Woodrow

Senior Division Behavioral & Social Sciences
First Place
Sarah Oden 9th grade
Insight In Sight, This Art Is All Right
Monte Vista High School Monte Vista

Second Place
Leela Khanna 10th grade
Brainwave Coherence: Developing The Full Potential Of The Brain
Palmer High School Colorado Springs

Third Place
Allie Martin 9th grade
The Task At Hand: Is Multitasking Affecting Our Health And Productivity?
Woodlin School Woodrow

Honorable Mention
Rachel Kelley 12th grade
Characteristics Common To Homeless Youth Pursuing The GED Certification
Cherry Creek High School Greenwood Village

Honorable Mention
Amelia Eads 9th grade
Is It Safe To Dish And Drive? The Effect Of Cell Phone Usage On Reaction Time
Blevins Junior High School Fort Collins

Honorable Mention
Samuel Galler 12th grade
Hemispheric Lateralization In Auditory Cortex For Words Versus Partial Speech Sounds
Boulder High School Boulder

Junior Division Behavioral & Social Sciences
First Place
Garret Cerny 6th grade
Is It Easier To Always Be Right?
Eagle County Carter Academy Wolcott

Second Place
Zachary Tanner 8th grade
Rock, Paper, Scissors: A Game Of Chance?
Summit Middle School Boulder

Third Place
Diane Schulze 8th grade
Monkey See, Monkey Do: Literary Imagery And The Mirror Neuron System
Cherry Creek Challenge School Denver

Honorable Mention
Dante Carter 6th grade
Does Music Affect Test Scores?
North Middle School Colorado Springs
Appendix 2

**Junior Division Chemistry**

**First Place**
Kelsey Piper 8th grade
*Going Bananas: Does The Vitamin C Concentration Of A Banana Vary With Ripeness?*
Summit Middle School Boulder

**Second Place**
Kassidy Knutson 7th grade
*Effects Of Acid Rain On Structural Materials*
Wiggins Jr/Sr High School Wiggins

**Third Place**
Kole Van Treese 7th grade
*Difference In Diesel*
Sargent Jr/Sr High School Monte Vista

**Honorable Mention**
Iris Belensky 8th grade
*New and More Energy Efficient Ways to Cure Polymer Clay*
Summit Middle School Boulder

**Senior Division Chemistry**

**First Place**
Sarah Guthrie 11th grade
*The Mechanisms And Actions Of Parthenolide On Platelet 5-HT Secretion In Vitro*
Boulder High School Boulder

**Second Place**
Bradley Falk 12th grade
*Chemical Comparison Of The Relative Efficiency Of The 2-Hydroxymethylphenol Synthesis Of Aspirin*
Cherry Creek High School Greenwood Village

**Third Place**
Travis Zuniga 9th grade
*The Wonder Drug (A Chemical Analysis Of Analgesics To Detect Aspirin)*
South High School Pueblo

**Honorable Mention**
Lisa Grossman 12th grade
*Synthetic vs. Natural Vitamin E: Optical Isomerism, Synergy And Antioxidant Testing Problems*
Palmer High School Colorado Springs

**Junior Division Earth & Space Sciences**

**First Place**
Sara Cunningham 6th grade
*Crystals*
Our Lady of Fatima School Lakewood

**Second Place**
Carl Scheevel 7th grade
*Effectiveness Of Various Ground Covers On Soil Erosion On A 32.5% Grade*
East Middle School Grand Junction

**Third Place**
Brisha Wakasugi 7th grade
*Potato Pedology: A Soil Study Of Two Different San Luis Valley Growing Horizons*
Sierra Grande Jr/Sr High School Blanca

**Honorable Mention**
Isaac Beverlin 6th grade
*ARCHES: Solid Rock To Windows In Time*
Dolores Middle School Dolores

**Senior Division Earth & Space Sciences**

**First Place**
Gwyneth Glissmann 11th grade
*Analyzing Arctic Solar Flux and Ice Extent Loss Projections*
Peak to Peak Charter School Lafayette
### Junior Division Energy & Transportation

<table>
<thead>
<tr>
<th>Category</th>
<th>First Place</th>
<th>Second Place</th>
<th>Third Place</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sara Volz 7th grade</td>
<td>Max Krakauer 12th grade, Testing The Effects Of Gasoline, E-85 Gasoline Mix, And 2,5-Dimethylfuran On Saccharomyces cerevisia</td>
<td>Joline Lobato 12th grade, Solar Powered Sand Beds And Other Heat Transfer Sources Antonito High School Antonito</td>
</tr>
<tr>
<td></td>
<td>The Ricks Center for Gifted and Talented Denver</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Second Place</strong></td>
<td>Katie Weiss 8th grade</td>
<td></td>
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<tr>
<td></td>
<td>The effect of fermentation on fruit</td>
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<td></td>
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<tr>
<td></td>
<td>The Ricks Center for Gifted and Talented Denver</td>
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<td></td>
</tr>
<tr>
<td><strong>Third Place</strong></td>
<td>Kyle Harlow 7th grade</td>
<td></td>
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<tr>
<td></td>
<td>It's All How You Spin It: Wind Generator Efficiency Based On Propeller Size And Shape Mountain View Core Knowledge Canon City</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td>Kayla Boren 6th grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Burn It Up - Measuring Fuel Efficiency In Manure St. Columba School Durango</td>
<td></td>
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</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td>Laura Mumbery 6th grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blowin' In The Wind St Columba Catholic School Durango</td>
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</tr>
</tbody>
</table>

### Junior Division Engineering

<table>
<thead>
<tr>
<th>Category</th>
<th>First Place</th>
<th>Second Place</th>
<th>Third Place</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Second Place</strong></td>
<td>Water Purification Off The Grid Mancos Middle School Mancos</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Third Place</strong></td>
<td>Determining Position By Interfacing A GPS To The Web Peak to Peak Charter School Lafayette</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td>Jeffrey King 6th grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wing Designs: Who's At The Top? Timberview Middle School Colorado Springs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Senior Division Energy & Transportation

<table>
<thead>
<tr>
<th>Category</th>
<th>First Place</th>
<th>Second Place</th>
<th>Third Place</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Andrew West 12th grade</td>
<td>Karthik Kumar-Rao 12th grade, Creating A Quantum Optical Source Using Laser Pointers And Parametric Down Conversion Fairview High School Boulder</td>
<td></td>
</tr>
<tr>
<td><strong>Second Place</strong></td>
<td>Regenerative Diesel Fuel Production Utilizing Vegetable Oil And Catalytic Hydrocracking Conifer High School Conifer</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Third Place</strong></td>
<td>Cameron Kruse 12th grade, The Dirt On Baseball: Engineering a Path Toward Standardizing The Baseball Mudding Process Home School Colorado Springs</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Second Place</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Third Place</strong></td>
<td>Jesse Ellison 10th grade, Plasma Propulsion Bayfield High School Bayfield</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Honorable Mention

J. Raleigh Burt 10th grade
Weather Or Knot: The Effects Of Environment And Exposure On High Strength Safety Textile, Phase 2
Sargent Jr/Sr High School Monte Vista

Honorable Mention

Shannon Tsai 12th grade
Constructing A Nanowire: Metallization Of Silver Onto DNA
Fairview High School Boulder

Honorable Mention

Nina Popovic-Basta 11th grade
Wireless Powercord
Fairview High School Boulder

Junior Division Environmental Sciences

First Place
Casey Campbell 7th grade
The Effects Of Coal Bed Methane Produced Water
La Veta Jr/Sr High School La Veta

Second Place
Rachel Beverlin 8th grade
GEYSER SPRING: A Further Characterization Of Colorado's Only Geyser
Dolores Middle School Dolores

Third Place
Heather Hilson 8th grade
A Century In The Life Of Trees
Summit Middle School Boulder

Honorable Mention

Alexa Major 8th grade
Is AgriBlend The Answer?
Fowler Jr/Sr High School Fowler

Honorable Mention

Emily Walck 7th grade
Washing Water To Ta'nagiz
Cortez Middle School Cortez

Team Nomination

Matthew Mandelski & Zofie Mandelski 7th grade
The Healthiest Spirogyra
St. Columba School Durango

Senior Division Environmental Sciences

First Place
Ben Armstrong 10th grade
Enemies Of The Environment: Estrogen Mimics
Monte Vista High School Monte Vista

Second Place
Caleb Kruse 10th grade
C The Difference II: The Effect Of Ascorbic Acid On Zooxanthellal Density During Coral Bleaching
Home School Colorado Springs

Third Place
Alex Schnaderbeck 12th grade
The Effects Of Limestone On The Productivity Of Aquatic Invertebrates
Sargent Jr/Sr High School Monte Vista

Honorable Mention

Grant Slinger 11th grade
Effects Of Soil Type On Groundwater Contamination, Phase II
Stratton High School Stratton

Team Nomination

Danielle Pite, Kelly Lane & Anna Hermann 12th grade
Didymosphenia geminata: The Core Question
Boulder High School Boulder

Junior Division Mathematics & Computer Sciences

First Place
Matthew Persons 8th grade
Tic Tac Text
Boltz Junior High School Fort Collins

Second Place
Tucker Leavitt 7th grade
Golden Music: Phi And The Musical Arts
Miller Middle School Durango

Third Place
Rahul Shankar 8th grade
Co-operating Robots: Behavior-Based Robots Using Subsumption Architecture
Mountain Ridge Middle School Colorado Springs

Senior Division Mathematics & Computer Sciences

First Place
Chelsea Oden 12th grade
The Probability Of Me
Monte Vista High School Monte Vista
<table>
<thead>
<tr>
<th align="center">Appendix 2</th>
</tr>
</thead>
<tbody>
<tr>
<td align="center"><strong>Second Place</strong></td>
</tr>
<tr>
<td align="center">Michael Crane</td>
</tr>
<tr>
<td align="center"><em>A Disease Model Of XDR-TB</em></td>
</tr>
<tr>
<td align="center">Cherry Creek High School</td>
</tr>
<tr>
<td align="center"><strong>Third Place</strong></td>
</tr>
<tr>
<td align="center">Tim Schneider</td>
</tr>
<tr>
<td align="center"><em>Will Your Vote Count?</em></td>
</tr>
<tr>
<td align="center">Durango High School</td>
</tr>
<tr>
<td align="center"><strong>Honorable Mention</strong></td>
</tr>
<tr>
<td align="center">Alex Przedpelski</td>
</tr>
<tr>
<td align="center"><em>Predicting Rockies Home Attendance</em></td>
</tr>
<tr>
<td align="center">Monarch High School</td>
</tr>
<tr>
<td align="center"><strong>Honorable Mention</strong></td>
</tr>
<tr>
<td align="center">Rhiannon Campbell</td>
</tr>
<tr>
<td align="center"><em>Where'd That Fake Blood Come From?</em></td>
</tr>
<tr>
<td align="center">Holly Jr/Sr High School</td>
</tr>
</tbody>
</table>

| **Junior Division Medicine & Health** |
|--------------------------:|--------------------------:|
| **First Place** |
| Molly Graber | 8th grade |
| *The Effects Of Bovine Colostrum On Breast Cancer* |
| North Middle School | Colorado Springs |
| **Second Place** |
| Bruno Mediate | 7th grade |
| *Chewing Gum For Brain Activity* |
| The Classical Academy | Colorado Springs |
| **Third Place** |
| Amanda Coopersmith | 7th grade |
| *The Effects of Over the Counter Medication on Fruit Flies* |
| Cherry Creek Challenge School | Denver |
| **Honorable Mention** |
| Katie Braun | 8th grade |
| *Can You Hear Me, Now?* |
| Boltz Junior High School | Fort Collins |
| **Honorable Mention** |
| Tanner Elliott | 8th grade |
| *Got Germs?* |
| Cortez Middle School | Cortez |
| **Honorable Mention** |
| Sydney Hooton | 7th grade |
| *A Wormy Situation: The Effect Of Diet Pills On Caenorhabditis elegans* |
| Merino Jr/Sr High School | Merino |

| **Honorable Mention** |
|--------------------------:|--------------------------:|
| Adam Warren | 8th grade |
| *Music To Your Ears: A Study Of Headphone Types, dB Levels, And The Risk Of Potential Hearing Loss* |
| The Classical Academy | Colorado Springs |

| **Senior Division Medicine & Health** |
|--------------------------:|--------------------------:|
| **First Place** |
| Rishi Rawat | 12th grade |
| *Differential Expression Of BCL-2 proteins In U2OS: A Look At What Really Kills Cancer* |
| Boulder High School | Boulder |
| **Second Place** |
| Kelsey Martin | 10th grade |
| *BONE BACK: Statins Inhibit Osteosarcoma Cells' Growth And Metastasis* |
| Woodlin School | Woodrow |
| **Third Place** |
| Katelyn Yowell | 9th grade |
| *The Effects Of Anthocyanins On Planaria Regeneration* |
| Genoa-Hugo School | Hugo |
| **Honorable Mention** |
| Chace Carver | 11th grade |
| *The Effects Of Bisphenol A From Polycarbonate Plastics On Lumbriculus variegatus* |
| Merino Jr/Sr High School | Merino |

| **Team Nomination** |
|--------------------------:|--------------------------:|
| Tonya Pavlekno & Laura Gudvangen | 9th grade |
| *The Superbug: How It Spreads* |
| Palmer High School | Colorado Springs |
| **Team Nomination** |
| Julia Buzan & Joseph Smith | 12th grade |
| *Determining A Non-Contact Method For Testing Skin Elasticity And Density* |
| Cherry Creek High School | Greenwood Village |

| **Junior Division Microbiology** |
|--------------------------:|--------------------------:|
| **First Place** |
| Ellery Goeltzenleuchter | 8th grade |
| *Caution Spice At Work* |
| Blevins Junior High School | Fort Collins |
| **Second Place** |
| Stephen O'Connor-Seville | 8th grade |
| *Microbes Make Electricity* |
| Dolores Middle School | Dolores |
## Appendix 2

### Senior Division Microbiology

<table>
<thead>
<tr>
<th>Third Place</th>
<th>Alexis Shinn</th>
<th>7th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bacteria Is It What's For Dinner? Bacterial Growth On Grocery Store Produce</strong></td>
<td>Merino Jr/Sr High School</td>
<td>Merino</td>
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<tr>
<td><strong>Honorable Mention</strong></td>
<td>Austin Titus</td>
<td>8th grade</td>
</tr>
<tr>
<td><strong>What Are The Effects of Certain Cleaners On Bacteria?</strong></td>
<td>Buchanan Middle School</td>
<td>Wray</td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td>Dakota Jackson</td>
<td>7th grade</td>
</tr>
<tr>
<td><strong>The Effect Of Temperature On Bacteria Growth</strong></td>
<td>Russell Middle School</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td>Kelli Lynch</td>
<td>8th grade</td>
</tr>
<tr>
<td><strong>What's In Your Wallet?</strong></td>
<td>Blevins Junior High School</td>
<td>Ft. Collins</td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td>Trent Capraro</td>
<td>8th grade</td>
</tr>
<tr>
<td><strong>Does Temperature Effect The Growth Of Mold On Bread?</strong></td>
<td>Genoa-Hugo School</td>
<td>Hugo</td>
</tr>
<tr>
<td><strong>Team Nomination</strong></td>
<td>Kendra Gomez &amp; Alixx Vigil</td>
<td>7th grade</td>
</tr>
<tr>
<td><strong>Cash, Credit, Coins</strong></td>
<td>Pueblo School for Arts and Sciences</td>
<td>Pueblo</td>
</tr>
<tr>
<td><strong>Team Nomination</strong></td>
<td>Loren Koszowski &amp; Anna Mellman</td>
<td>7th grade</td>
</tr>
<tr>
<td><strong>Who Would You Rather Kiss?</strong></td>
<td>Stanley British Primary School</td>
<td>Denver</td>
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### Senior Division Physics

<table>
<thead>
<tr>
<th>First Place</th>
<th>Kelsey Moore</th>
<th>12th grade</th>
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</thead>
<tbody>
<tr>
<td><strong>HIV-1 And Endothelial Progenitor Cell Dysfunction</strong></td>
<td>Monarch High School</td>
<td>Louisville</td>
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<tr>
<td><strong>Second Place</strong></td>
<td>Adwai Eswaran</td>
<td>10th grade</td>
</tr>
<tr>
<td><strong>Elimination Of E. coli Bacteria From The Standard Cotton Dishrag By Exposure To Microwaves</strong></td>
<td>Cherry Creek High School</td>
<td>Greenwood Village</td>
</tr>
<tr>
<td><strong>Third Place</strong></td>
<td>Krista Kinkel</td>
<td>10th grade</td>
</tr>
<tr>
<td><strong>Ring Ring Bacteria Calling! How Much Bacteria Do You Think Is On Your Phone? Do You Dare Find Out?</strong></td>
<td>Arriba-Flagler Public School</td>
<td>Flagler</td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td>Erika Baker</td>
<td>10th grade</td>
</tr>
<tr>
<td><strong>Eye Can't See Clearly Now! A Comparison Study Of Contact Types With E. coli And S. epidermidis</strong></td>
<td>Merino Jr/Sr High School</td>
<td>Merino</td>
</tr>
<tr>
<td><strong>Junior Division Physics</strong></td>
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<tr>
<td><strong>First Place</strong></td>
<td>Lorne Muir II</td>
<td>8th grade</td>
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<tr>
<td><strong>Hail! No!</strong></td>
<td>The Classical Academy</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Second Place</strong></td>
<td>Layne Barrett</td>
<td>8th grade</td>
</tr>
<tr>
<td><strong>Twist But Don't Shout</strong></td>
<td>The Classical Academy</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Third Place</strong></td>
<td>Aidan Mike</td>
<td>6th grade</td>
</tr>
<tr>
<td><strong>Electro-Flow</strong></td>
<td>North Middle School</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td>Ellie Gossage</td>
<td>7th grade</td>
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<tr>
<td><strong>Can You Hear Me Now? The Effect Of Perimeter Boards On Sound Volume</strong></td>
<td>East Middle School</td>
<td>Grand Junction</td>
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<tr>
<td><strong>Honorable Mention</strong></td>
<td>Clay Mullins</td>
<td>8th grade</td>
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<tr>
<td><strong>Get The Point?</strong></td>
<td>Sargent Jr/Sr High School</td>
<td>Monte Vista</td>
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<tr>
<td><strong>Honorable Mention</strong></td>
<td>Emily Sandner</td>
<td>7th grade</td>
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<td><strong>Wingin' It Density Altitude's Effect On Lift</strong></td>
<td>St. Columba Middle School</td>
<td>Durango</td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td>Erin Biringen</td>
<td>8th grade</td>
</tr>
<tr>
<td><strong>The Perfect Turn</strong></td>
<td>Summit Middle School</td>
<td>Boulder</td>
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### Senior Division Physics

<table>
<thead>
<tr>
<th>First Place</th>
<th>Marlena Widman</th>
<th>10th grade</th>
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<tbody>
<tr>
<td><strong>Junkyard Multispectral Imaging</strong></td>
<td>The Classical Academy</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Second Place</strong></td>
<td>Antonia Lira</td>
<td>10th grade</td>
</tr>
<tr>
<td><strong>Pig-In-A-Blanket</strong></td>
<td>Lamar High School</td>
<td>Lamar</td>
</tr>
</tbody>
</table>
Appendix 2

Junior Plant Sciences

**First Place**
Haley Matteson  
*Too Hot Or Not- The Effects Of Global Warming On Germination & Growth Of Flower, Vegetable, Weed Seeds*  
North Middle School  Colorado Springs

**Second Place**
K C Zinn  
*To Rot Or Not Potato Susceptibility To Pink Rot, Phytophthora erythroseptica*  
Sargent Jr/Sr High School  Monte Vista

**Third Place**
Kent Schaller  
*Got Minerals?*  
The Classical Academy  Colorado Springs

**Honorable Mention**
Ryan Ernst  
*Possible Harms Of pH*  
Wiggins Jr/Sr High School  Wiggins

**Senior Division Plant Sciences**

**First Place**
Kirk Wilkinson  
*Finding A Biomarker Of Physiological Ageing In Potato Seed Tubers*  
Monte Vista High School  Monte Vista

**Second Place**
Kaitlyn Lingus  
*Power Of A Biological Control Agent: Compensation Suppression Of Convolvulus arvensis Implementing Host-Specific Aceria malherbae - Phase IV*  
Branson School  Branson

**Third Place**
Jordan Lestina  
*Biodiesel From Sunflower Oil - An Analysis Of Soil Fertility And Sunflower Oil Content*  
Dove Creek High School  Dove Creek

**Honorable Mention**
Delani Miller  
*Monarch Mitigation: What Soil Does Milkweed Germinate In The Best?*  
Blevins Junior High School  Fort Collins

**Team Nomination**
Anika Petach  
*Tanya Petach*  
*Pine Beetle Outbreaks: Spatial Analysis And Pheromone Population Control*  
Fairview High School  Boulder
Appendix 2

2008 Colorado Science and Engineering Fair
Special Awards Press Release

Colorado Science and Engineering Fair

Pioneers of Science

<table>
<thead>
<tr>
<th>Project</th>
<th>Grade</th>
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<td>Brianna Honebein</td>
<td>7th</td>
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<tr>
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<td>Ward Middle School</td>
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<td><em>Ants In Action</em></td>
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<td>Dirk Marshall</td>
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<td><em>The Eyes Have It: Do Your Eyes Show Your Personality?</em></td>
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<td>Lizette van Zyl</td>
<td>8th</td>
<td>Fort Collins</td>
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<td><em>Reading In Colors</em></td>
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<td>Melissa Poet</td>
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<td>Arriba-Flagler Public School</td>
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<td><em>Got 'Acidity' Milk?</em></td>
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<td>Tanner Dunivan</td>
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<td>Walsh Jr/Sr High School</td>
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<tr>
<td><em>Up In Flames</em></td>
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<td>Isaac Beverlin</td>
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<td>Dolores Middle School</td>
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<td><em>ARCHES: Solid Rock To Windows In Time</em></td>
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<td>Antonio Huizar</td>
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<td>Quest Academy</td>
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<td>*Craters &amp; Meteors: How A Meteor's Weight Affects The Cra-</td>
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<td>ter*</td>
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<td>Jessika Gill</td>
<td>7th</td>
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<tr>
<td>Merino Jr/Sr High School</td>
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<td>Merino</td>
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<tr>
<td><em>Lend Me Your Ears!</em></td>
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<tr>
<td>Kayla Boren</td>
<td>6th</td>
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<td>St. Columba School</td>
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<td>Durango</td>
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<td><em>Burn It Up - Measuring Fuel Efficiency In Manure</em></td>
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<td>Ken Garcia</td>
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<tr>
<td>Brush Middle School</td>
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<td><em>Investigating The Magnus Effect Phenomenon</em></td>
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<td>Joshua Steklac</td>
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<td>Mackintosh Academy</td>
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<td>Littleton</td>
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<td><em>Magnetic Levitation</em></td>
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<tr>
<td>Chayenne Jackson</td>
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<td>certificate, $30</td>
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<tr>
<td>Merino Jr/Sr High School</td>
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<tr>
<td><em>Is Your Water Glowing? Water Analysis Of Colorado</em></td>
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Carlos Nunez                                                                 | 6th grade |
La Veta Elementary School                                                                 |
*The Power Within: Conventional vs Non-Conventional Cancer Treatment* | La Veta |
Devon Montague                                                                                       | 7th grade |
Centauri Middle School                                                                                   | LaJara |
*Diabetes The Sweet Disease*                                                                            |
Kaley Kukus                                                                                              | 7th grade |
Woodlin School                                                                                          | Woodrow |
*Got Protein?*                                                                                          |
Layne McCaleb                                                                                           | 6th grade |
Arickaree School                                                                                       | Anton |
*Purell, Does It Really Kill 99.99% Bacteria?*                                                          |
Dayton Fisher                                                                                           | 6th grade |
Yuma Middle School                                                                                      | Yuma |
*Vary The Viscosities Of Crude Oil*                                                                     |
Andrew Haines                                                                                           | 6th grade |
North Middle School                                                                                     | Colorado Springs |
*Materiials That Can Shield Sound*                                                                     |
Rachael Gessert                                                                                         | 6th grade |
West Jefferson Middle School                                                                            | Conifer |
*The Science Behind CSI: Blood Drop Patterns And Angle Of Impact*                                       |
Madison Dewey                                                                                           | 6th grade |
North Middle School                                                                                     | Colorado Springs |
*Lettuce Taste The Difference*                                                                          |
Boya Liu                                                                                                 | Boulder |
Fairview High School                                                                                    |
*Poster Art Contest*                                                                                    |
Heather Hilson                                                                                          | 8th grade |
Summit Middle School                                                                                     | Boulder |
*A Century In The Life Of Trees*                                                                        |
Chace Carver                                                                                             | 11th grade |
Merino Jr/Sr High School                                                                                 | Merino |
*The Effects Of Bisphenol A From Polycarbonate Plastics On Lumbriculus variegatus*                     | Merino |

Junior Division Student Choice Award

Senior Division Student Choice Award
Appendix 2

**Ralph Desch Memorial Technical Writing Award**

Sarah Guthrie  
11th grade  
Boulder High School  
Boulder  
The Mechanisms And Actions Of Parthenolide On Platelet 5-HT Secretion In Vitro

---

**Military**

**United States Air Force**

Sarah Rumbley & Devyn Shafer  
12th grade  
certificate, pad folio, WiFi hotspot finder, USB flash drive, ballpoint pen, messenger bag  
Peak to Peak Charter School  
Lafayette  
Polarimetry With Laser-Illuminated Digital Holography

Cahl Johnson  
9th grade  
certificate, pad folio, WiFi hotspot finder, USB flash drive, ballpoint pen, messenger bag  
Kim School  
Kim  
Rocketry: Does Size Matter?

Adam Goss  
12th grade  
certificate, pad folio, WiFi hotspot finder, USB flash drive, ballpoint pen, messenger bag  
Brush High School  
Brush  
Design And Construction Of A Flexible Robotic Device

Jesse Ellison  
10th grade  
certificate, pad folio, WiFi hotspot finder, USB flash drive, ballpoint pen, messenger bag  
Bayfield High School  
Bayfield  
Plasma Propulsion

---

**United States Army**

Bethany Dilda  
10th grade  
certificate, $50 US savings bond  
Branson School  
Branson  
The Golden Ratio In Natural Adaptations

Jake McHargue  
9th grade  
certificate, $50 US savings bond  
Lake County High School  
Leadville  
Thermite . . . Might Not

Grant Slinger  
11th grade  
certificate, $50 US savings bond  
Stratton High School  
Stratton  
Effects Of Soil Type On Groundwater Contamination, Phase II

Cameron Kruse  
12th grade  
certificate, $50 US savings bond  
Home School  
Colorado Springs  
The Dirt On Baseball: Engineering a Path Toward Standardizing The Baseball Mudding Process

Antonia Lira  
10th grade  
certificate, silver medallion, $100 US savings bond  
Lamar High School  
Lamar  
Pig-In-A-Blanket

---

**United States Navy & Marine Corps**

Erin Biringen  
8th grade  
certificate, medallion  
Summit Middle School  
Boulder  
The Perfect Turn

Shannon Craig  
7th grade  
certificate, medallion  
West Jefferson Middle School  
Conifer  
The Statistics On Statistics

Zane Willburn  
7th grade  
certificate, medallion  
Mancos Middle School  
Mancos  
Water Purification Off The Grid

Elliott Saslow  
7th grade  
certificate, medallion  
Colorado Virtual Academy  
Durango  
The Best Way To Grow Tomato And Pepper Plants: Hydroponics With River Water Or Tap Water

Samuel Galler  
12th grade  
certificate, $75 gift certificate, medallion  
Boulder High School  
Boulder  
Hemispheric Lateralization In Auditory Cortex For Words Versus Partial Speech Sounds

Chelsea Oden  
12th grade  
certificate, $75 gift certificate, medallion  
Monte Vista High School  
Monte Vista  
The Probability Of Me

Max Krakauer  
12th grade  
certificate, $75 gift certificate, medallion  
Palmer High School  
Colorado Springs  
Testing The Effects Of Gasoline, E-85 Gasoline Mix, And 2,5-Dimethylfuran On Saccharomyces cerevisia

---

**Organizational**

**Air & Waste Management Association**

**Rocky Mountain States Section**

Sara Volz  
7th grade  
$20  
Cheyenne Mountain Charter  
Colorado Springs  
Are Biodiesel Emissions Safer Than Commercial Diesel Emissions?

Jessica Constant  
7th grade  
$50  
Saint Joseph Catholic School  
Fort Collins  
Yours, Mine, And Ours: A Basic Model Of The Spread Of Air Pollutants

Christopher Krause  
10th grade  
$75  
The Classical Academy  
Colorado Springs  
Caution: Urbanization May Be Hot!

Olivia Pecukonis & Laura Garcia  
12th grade  
$100 or equivalent subscription to a professional  
Brush High School  
Brush  
The Removal Of Ferric Ions Utilizing Mollusk Shells
Appendix 2

**American Association of University Women**

Alexandrin Farnsworth 8th grade
$100
Paonia Jr/Sr High School Paonia
Energy With A Spin

**American Chemical Society**
**Colorado Local Section**

Aidan Mike 6th grade
certificate, $100
North Middle School Colorado Springs
Electro-Flow
Sarah Guthrie 11th grade
certificate, $100
Boulder High School Boulder
The Mechanisms And Actions Of Parthenolide On Platelet 5-HT Secretion In Vitro

**American Institute of Chemical Engineers**
**Rocky Mountain Section**

Jessika Gill 7th grade
$75
Merino Jr/Sr High School Merino
Lend Me Your Ears!
Kassidy Knutson 7th grade
$100
Wiggins Jr/Sr High School Wiggins
Effects Of Acid Rain On Structural Materials
Shannon Tsai 12th grade
$75
Fairview High School Boulder
Constructing A Nanowire: Metallization Of Silver Onto DNA
Bradley Falk 12th grade
$100
Cherry Creek High School Greenwood Village
Chemical Comparison Of The Relative Efficiency Of The 2-Hydroxymethylphenol Synthesis Of Aspirin

**American Statistical Association**
**Colorado/Wyoming Chapter**

Zachary Tanner 8th grade
$75, acknowledgement at Chapter Spring Meeting and on Chapter web site
Summit Middle School Boulder
Rock, Paper, Scissors: A Game Of Chance?
Shannon Craig 7th grade
$75, engraved Ipod Shuffle, acknowledgement at Chapter Spring Meeting and on Chapter web site
West Jefferson Middle School Conifer
The Statistics On Statistics
Sarah Oden 9th grade
$75, acknowledgement at Chapter Spring Meeting and on Chapter web site
Monte Vista High School Monte Vista
Insight In Sight, This Art Is All Right

Sarah Guthrie 11th grade
$75, engraved Ipod Shuffle, acknowledgement at Chapter Spring Meeting and on Chapter web site
Boulder High School Boulder
The Mechanisms And Actions Of Parthenolide On Platelet 5-HT Secretion In Vitro

**American Vacuum Society**
**Rocky Mountain Chapter**

Sara Volz 7th grade
$50, $50 matching award to sponsor
Cheyenne Mountain Charter Colorado Springs
Are Biodiesel Emissions Safer Than Commercial Diesel Emissions?
Jesse Eads 7th grade
$100, $100 matching award to sponsor
Dolores Middle School Dolores
Photon's Affect On Space Time Curvature
Shannon Tsai 12th grade
$50, $50 matching award to sponsor
Fairview High School Boulder
Constructing A Nanowire: Metallization Of Silver Onto DNA
Jesse Ellison 10th grade
$100, $100 matching award to sponsor
Bayfield High School Bayfield
Plasma Propulsion

**American Water Works Association, Rocky Mountain Section & Rocky Mountain Water Environment Association**

Casey Campbell 7th grade
$200
La Veta Jr/Sr High School La Veta
The Effects Of Coal Bed Methane Produced Water
Zane Willburn 7th grade
$400
Mancos Middle School Mancos
Water Purification Off The Grid
Alex Schnaderbeck 12th grade
$200
Sargent Jr/Sr High School Monte Vista
The Effects Of Limestone On The Productivity Of Aquatic Invertebrates
Ben Armstrong 10th grade
$400
Monte Vista High School Monte Vista
Enemies Of The Environment : Estrogen Mimics

**Armbruster Associates**
**Charles Armbruster Memorial Award**

Cade Carlson 6th grade
$100
Wiggins Jr/Sr High School Wiggins
The Aerodynamics Of Paper Airplanes
Appendix 2

**ASM International**

Ashley Motley  
6th grade  
certificate, $50  
Wiggins Jr/Sr High School  
*How Heat Transfers*

Kassidy Knutson  
7th grade  
certificate, $75  
Wiggins Jr/Sr High School  
*Effects Of Acid Rain On Structural Materials*

**Association for Women Geoscientists**  
**Laramide Chapter**

Emily Walck  
7th grade  

$75, achievement medal  
Cortez Middle School  
*Washing Water To Ta'nagiz*

Nicole Mayer  
9th grade  

$75, achievement medal  
Blevins Junior High School  
*Killed By Campers: The Effect Of Dish Soap On Plants*

**BP**

**BP Special Award for Energy**

Courtlyn Carpenter  
7th grade  
certificate, computer  
East Middle School  
*Using Evapotranspiration Covers To Reduce Groundwater Pollution*

Andrew West  
12th grade  
certificate, computer  
Conifer High School  
*Regenerative Diesel Fuel Production Utilizing Vegetable Oil And Catalytic Hydrocracking*

**Colorado Association of Meat Processors**

Tonya Pavlekno  
9th grade  
Laura Gudvangen  
9th grade  
certificate, $60  
Palmer High School  
*The Superbug: How It Spreads*

**Colorado Association of Science Teachers**

Laura Mummery  
6th grade  
certificate, $50  
St Columba Catholic School  
*Blowin' In The Wind*

Layne Barrett  
8th grade  
certificate, $50  
The Classical Academy  
*Twist But Don't Shout*

Collin Dutro  
11th grade  
certificate, $50  
Genoa-Hugo School  
*Do You See What I Hear?*

Sean Buck  
11th grade  
certificate, $50  
Cherry Creek High School  
*Bringing The Forest Back Into Balance: The Mountain Pine Beetle Infestation*

**Gerald Gromko Award**

Christy Farnsworth  
10th grade  
plaque, $150  
Paonia Jr/Sr High School  
*Hydrogen: It's All Down Hill*

**Colorado Biology Teachers' Association**

Wyatt Palser  
7th grade  
certificate, $75  
Otis Jr/Sr High School  
*Attack Of The Killer Worms!!!*

Nataara Tamada  
11th grade  
certificate, $75  
Sierra Grande Jr/Sr High School  
*Healthy Potatoes: Searching For A-Amylase Inhibitor And RS In Cultivars To Lower The Glycemic Index*

**Colorado Dental Association**

Loren Kosowski & Anna Mellman  
7th grade  

plaque, $50, invitation to present at the Colorado Dental Association's Annual Meeting and 1 night's lodging at the headquarter hotel/resort during the 122nd CDA's Annual session  
Stanley British Primary School  
*Who Would You Rather Kiss?*

Amber Wilson  
8th grade  

plaque, $50, invitation to present at the Colorado Dental Association's Annual Meeting and 1 night's lodging at the headquarter hotel/resort during the 122nd CDA's Annual session  
Lamar Middle School  
*Are Your Teeth In Danger?*

Megan Kavalec & Amy Solis  
6th grade  
CSU Bookstore gift cards & gift bag  
Canon City Middle School  
*Tooth Trouble*

**Colorado Environmental Health Association**

Alexis Shinn  
7th grade  
certificate, $75  
Merino Jr/Sr High School  
*Bacteria Is It What's For Dinner? Bacterial Growth On Grocery Store Produce*

Chace Carver  
11th grade  
certificate, $150, invitation to exhibit at the CEHA Annual Educational Conference  
Merino Jr/Sr High School  
*The Effects Of Bisphenol A From Polycarbonate Plastics On Lumbriculus variegatus*

**Colorado Foundation for Agriculture**

*Agriculture in the Classroom Award*

K C Zinn  
8th grade  
certificate, $50  
Sargent Jr/Sr High School  
*To Rot Or Not Potato Susceptibility To Pink Rot, Phytophthora erythroseptica*
### Appendix 2

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Grade</th>
<th>School</th>
<th>Project Title</th>
<th>Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brisha Wakasugi</td>
<td>7th</td>
<td>Sierra Grande Jr/Sr High Blanca</td>
<td>Potato Pedology: A Soil Study Of Two Different San Luis Valley Growing Horizons</td>
<td>$50</td>
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<tr>
<td>Kaitlyn Lingus</td>
<td>12th</td>
<td>Branson School Branson</td>
<td>Power Of A Biological Control Agent: Compensation Suppression Of Convolvulus arvensis Implementing Host-Specific Aceria malherbae - Phase IV</td>
<td>$50</td>
</tr>
<tr>
<td>Grant Slinger</td>
<td>11th</td>
<td>Stratton High School Stratton</td>
<td>Effects Of Soil Type On Groundwater Contamination, Phase II</td>
<td>$50</td>
</tr>
<tr>
<td>Isaac Beverlin</td>
<td>6th</td>
<td>Dolores Middle School Dolores</td>
<td>ARCHES: Solid Rock To Windows In Time</td>
<td>$150</td>
</tr>
<tr>
<td>Alex Schnaderbeck</td>
<td>12th</td>
<td>Sargent Jr/Sr High School Monte Vista</td>
<td>The Effects Of Limestone On The Productivity Of Aquatic Invertebrates</td>
<td>$150</td>
</tr>
<tr>
<td>Carl Scheevel</td>
<td>7th</td>
<td>East Middle School Grand Junction</td>
<td>Effectiveness Of Various Ground Covers On Soil Erosion On A 32.5% Grade</td>
<td>$150</td>
</tr>
<tr>
<td>Alex Schnaderbeck</td>
<td>12th</td>
<td>Sargent Jr/Sr High School Monte Vista</td>
<td>The Effects Of Limestone On The Productivity Of Aquatic Invertebrates</td>
<td>$150</td>
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<td>Carl Scheevel</td>
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<td>East Middle School Grand Junction</td>
<td>Effectiveness Of Various Ground Covers On Soil Erosion On A 32.5% Grade</td>
<td>$150</td>
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<tr>
<td>Casey Campbell</td>
<td>7th</td>
<td>La Veta Jr/Sr High School La Veta</td>
<td>The Effects Of Coal Bed Methane Produced Water</td>
<td>$50</td>
</tr>
<tr>
<td>Isaac Beverlin</td>
<td>6th</td>
<td>Sargent Jr/Sr High School Monte Vista</td>
<td>Qualitative Assay Of Radionuclide Species In Ash From Coal Combustion</td>
<td>$75</td>
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<tr>
<td>Carl Scheevel</td>
<td>7th</td>
<td>Woodlin School Woodrow</td>
<td>Qualitative Assay Of Radionuclide Species In Ash From Coal Combustion</td>
<td>$75</td>
</tr>
<tr>
<td>Casey Campbell</td>
<td>7th</td>
<td>La Veta Jr/Sr High School La Veta</td>
<td>The Effects Of Coal Bed Methane Produced Water</td>
<td>$50</td>
</tr>
<tr>
<td>Gwyneth Glissmann</td>
<td>11th</td>
<td>Lone Star School Otis</td>
<td>Analyzing Arctic Solar Flux and Ice Extent Loss Projections</td>
<td>$100</td>
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<tr>
<td>Dayton Fisher</td>
<td>6th</td>
<td>Yuma Middle School Yuma</td>
<td>Vary The Viscosities Of Crude Oil</td>
<td>$25</td>
</tr>
<tr>
<td>Carl Scheevel</td>
<td>7th</td>
<td>Woodlin School Woodrow</td>
<td>BONE BACK: Statins Inhibit Osteosarcoma Cells' Growth And Metastasis</td>
<td>$40</td>
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<tr>
<td>Dayton Fisher</td>
<td>6th</td>
<td>Yuma Middle School Yuma</td>
<td>Vary The Viscosities Of Crude Oil</td>
<td>$25</td>
</tr>
<tr>
<td>Carl Scheevel</td>
<td>7th</td>
<td>Woodlin School Woodrow</td>
<td>BONE BACK: Statins Inhibit Osteosarcoma Cells' Growth And Metastasis</td>
<td>$40</td>
</tr>
</tbody>
</table>

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**Colorado Geological Survey & Division of Reclamation Mining and Safety**

- Isaac Beverlin, 6th grade
  - packet & book
  - Dolores Middle School Dolores
  - ARCHES: Solid Rock To Windows In Time

- Carl Scheevel, 7th grade
  - $150
  - East Middle School Grand Junction
  - Effectiveness Of Various Ground Covers On Soil Erosion On A 32.5% Grade

- Alex Schnaderbeck, 12th grade
  - $150
  - Sargent Jr/Sr High School Monte Vista
  - The Effects Of Limestone On The Productivity Of Aquatic Invertebrates

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**Colorado Medical Society**

- Corissa Kiepke, 6th grade
  - $100, invitation to exhibit at the Colorado Medical Society Annual Meeting and attendance at the Presidential Inagural Dinner with a paid overnight stay
  - North Middle School Colorado Springs
  - The Effects Of Exercise On Memory

- Kelsey Martin, 10th grade
  - $100, invitation to exhibit at the Colorado Medical Society Annual Meeting and attendance at the Presidential Inagural Dinner with a paid overnight stay
  - Woodlin School Woodrow
  - BONE BACK: Statins Inhibit Osteosarcoma Cells' Growth And Metastasis

---

**Colorado Mineral Society**

- Dayton Fisher, 6th grade
  - $25, mineral sample, book
  - Yuma Middle School Yuma
  - Vary The Viscosities Of Crude Oil

- Carl Scheevel, 7th grade
  - $40, mineral sample, book
  - East Middle School Grand Junction
  - Effectiveness Of Various Ground Covers On Soil Erosion On A 32.5% Grade

---

**Colorado Mycological Society**

- K C Zinn, 8th grade
  - certificate, $50
  - Sargent Jr/Sr High School Monte Vista
  - To Rot Or Not Potato Susceptibility To Pink Rot, Phytophthora erythropoetica

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**Colorado Scientific Society**

- Casey Campbell, 7th grade
  - $50
  - La Veta Jr/Sr High School La Veta
  - The Effects Of Coal Bed Methane Produced Water

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**Colorado River Watch**

- Casey Campbell, 7th grade
  - $50
  - La Veta Jr/Sr High School La Veta
  - The Effects Of Coal Bed Methane Produced Water

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**Colorado Veterinary Medical Association & CVMA Auxiliary & Auxiliary to the AVMA**

- Laci Pennington, 8th grade
  - certificate & gold medallion from Auxiliary to the AVMA; $50 from CVMA; $50 from CVMA Auxiliary
  - Lamar Middle School Lamar
  - Canine Diabetes Mellitus

- Jessie Haugen, 11th grade
  - certificate & gold medallion from Auxiliary to the AVMA; $50 from CVMA; $50 from CVMA Auxiliary
  - Sargent Jr/Sr High School Monte Vista
  - What's The Pus? Preventing Staphylococcus Epidermidis Growth In Surgical Procedures
### Appendix 2

**Colorado-Wyoming Society of American Foresters**

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Grade</th>
<th>School</th>
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<tbody>
<tr>
<td>Heather Hilson $100 savings bond A Century In The Life Of Trees</td>
<td>8th</td>
<td>Summit Middle School Boulder</td>
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<tr>
<td>Sean Buck $100 savings bond Cherry Creek High School Greenwood Village Bringing The Forest Back Into Balance: The Mountain Pine Beetle Infestation</td>
<td>11th</td>
<td>Greenwood Village</td>
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**Covidian Energy-Based Devices**

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Grade</th>
<th>School</th>
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<tbody>
<tr>
<td>Chace Carver plaque, Dino-Lite Microscope Camera Combo The Effects Of Bisphenol A From Polycarbonate Plastics On Lumbricus variegatus</td>
<td>11th</td>
<td>Merino Jr/Sr High School Merino</td>
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**CSU, Department of Biochemistry and Molecular Biology**

<table>
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<tr>
<th>Project Title</th>
<th>Grade</th>
<th>School</th>
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<tbody>
<tr>
<td>Sarah Guthrie certificate, $100 The Mechanisms And Actions Of Parthenolide On Platelet 5-HT Secretion In Vitro</td>
<td>11th</td>
<td>Boulder</td>
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<tr>
<td>Lisa Grossman certificate, $100 Pucker Up To Poison Synthetic vs. Natural Vitamin E: Optical Isomerism, Synergy And Antioxidant Testing Problems</td>
<td>12th</td>
<td>Yuma</td>
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<tr>
<td>Palmer High School Colorado Springs Synthetic vs. Natural Vitamin E: Optical Isomerism, Synergy And Antioxidant Testing Problems</td>
<td>12th</td>
<td>Colorado Springs</td>
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**CSU, Department of Chemistry**

<table>
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<td>Tess Ringlein certificate, $100 Yuma Middle School Yuma Pucker Up To Poison Synthetic vs. Natural Vitamin E: Optical Isomerism, Synergy And Antioxidant Testing Problems</td>
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<tr>
<td>Lisa Grossman certificate, $100 Palmer High School Colorado Springs Synthetic vs. Natural Vitamin E: Optical Isomerism, Synergy And Antioxidant Testing Problems</td>
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**CSU, Department of Horticulture & Landscape Architecture**

<table>
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<th>Project Title</th>
<th>Grade</th>
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</thead>
<tbody>
<tr>
<td>K C Zinn $150 Sargent Jr/Sr High School To Rot Or Not: Potato Susceptibility To Pink Rot, Phytophthora erythroseptica</td>
<td>8th</td>
<td>Monte Vista</td>
</tr>
<tr>
<td>Theo Kurtzer $150 Merino Jr/Sr High School Goodness Gracious Great Balls Of Manure Royce Hoffner $150 Home School</td>
<td>7th</td>
<td>Merino</td>
</tr>
<tr>
<td>$150 S.O.S. 2 - Save Our Soil, Phase Two Synthetic vs. Natural Vitamin E: Optical Isomerism, Synergy And Antioxidant Testing Problems</td>
<td>10th</td>
<td>Otis</td>
</tr>
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**Eastman Kodak Company**

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Grade</th>
<th>School</th>
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</thead>
<tbody>
<tr>
<td>K C Zinn digital camera Sargent Jr/Sr High School To Rot Or Not Potato Susceptibility To Pink Rot, Phytophthora erythroseptica</td>
<td>8th</td>
<td>Monte Vista</td>
</tr>
<tr>
<td>Christy Farnsworth digital camera Paonia Jr/Sr High School Hydrogen: It's All Down Hill</td>
<td>10th</td>
<td>Paonia</td>
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**Eppler Family**

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Grade</th>
<th>School</th>
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<tr>
<td>Aidan Mike microprocessor kit &amp; digital multimeter North Middle School Electro-Flow Kayleigh Santala microprocessor kit &amp; digital multimeter Arriba-Flagler Public School Electromagnets</td>
<td>6th</td>
<td>Colorado Springs</td>
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**Fort Collins Conservation District**

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Grade</th>
<th>School</th>
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</thead>
<tbody>
<tr>
<td>Carl Scheevel plaque, $50 East Middle School Effectiveness Of Various Ground Covers On Soil Erosion On A 32.5% Grade Tawney Bleak plaque, $50 Otis Jr/Sr High School S.O.S. 2 - Save Our Soil, Phase Two</td>
<td>7th</td>
<td>Grand Junction</td>
</tr>
<tr>
<td>9th</td>
<td>5th</td>
<td>Otis</td>
</tr>
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</table>

**Human Factors & Ergonomics Society Rocky Mountain Section**

<table>
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<tr>
<th>Project Title</th>
<th>Grade</th>
<th>School</th>
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<tbody>
<tr>
<td>Adam Warren Music To Your Ears: A Study Of Headphone Types, dB Levels, And The Risk Of Potential Hearing Loss</td>
<td>8th</td>
<td>Colorado Springs</td>
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**Institute of Electrical and Electronics Engineers**

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Grade</th>
<th>School</th>
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</thead>
<tbody>
<tr>
<td>Garrett Glissmann $100 Peak to Peak Charter School Determining Position By Interfacing A GPS To The Web Jesse Ellison Plasma Propulsion</td>
<td>8th</td>
<td>Lafayette</td>
</tr>
<tr>
<td>$150 Bayfield High School Plasma Propulsion</td>
<td>10th</td>
<td>Bayfield</td>
</tr>
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**Stage Specific Expression Of Peroxidase Enzymes In Wound Healing Potato Tubers**
Appendix 2

**Little Shop of Physics**

*Matthew McCausland Memorial Award*

Jesse Ellison  
10th grade  
Bayfield High School  
Bayfield  
*Plasma Propulsion*

**Lockheed Martin**

Hannah Wardell  
7th grade  
$50 US savings bond  
Irving Middle School  
Colorado Springs  
*Defeating Passive Infrared Sensors*

Jesse Ellison  
10th grade  
$100 US savings bond, nominal Lockheed Martin logo item  
Bayfield High School  
Bayfield  
*Plasma Propulsion*

**Teacher of the Year Award**

Doug Steward  
certificate, $3,000 grant  
Monte Vista high School  
Monte Vista  

**MAST Institute**

Alexandria Farnsworth  
8th grade  
$50  
Paonia Jr/Sr High School  
Paonia  
*Energy With A Spin*

Jordan Lestina  
9th grade  
$50  
Dove Creek High School  
Dove Creek  
*Biodiesel From Sunflower Oil - An Analysis Of Soil Fertility And Sunflower Oil Content*

**MWH Americas, Inc.**

Zane Willburn  
7th grade  
plaque, $100  
Mancos Middle School  
Mancos  
*Water Purification Off The Grid*

Alexandria Farnsworth  
8th grade  
plaque, $200  
Paonia Jr/Sr High School  
Paonia  
*Energy With A Spin*

Bradley Falk  
12th grade  
plaque, $100  
Cherry Creek High School  
Greenwood Village  
*Chemical Comparison Of The Relative Efficiency Of The 2-Hydroxyxymethylphenol Synthesis Of Aspirin*

Dong-Kou Kim  
11th grade  
plaque, $200  
Fountain Valley School of  
Colorado Springs  
*Piezo Generator*

**National Geophysical Data Center**

Heather Hilson  
8th grade  
certificate, $100 US savings bond  
Summit Middle School  
Boulder  
*A Century In The Life Of Trees*

**National Renewable Energy Laboratory**

Andrew West  
12th grade  
$100  
Conifer High School  
Conifer  
*Regenerative Diesel Fuel Production Utilizing Vegetable Oil And Catalytic Hydrocracking*

**Optical Society of America**

*Rocky Mountain Section*

Lizette van Zyl  
8th grade  
Framed certificate, 1-year subscription for Discover magazine  
Boltz Junior High School  
Fort Collins  
*Reading In Colors*

Sarah Rumbley  
12th grade  
Devyn Shafer  
12th grade  
Framed certificate, 1-year subscription for Discover magazine  
Peak to Peak Charter School  
Lafayette  
*Polarimetry With Laser-Illuminated Digital Holography*

**Rio Tinto Minerals, Inc.**

Michelle Hoffmann  
7th grade  
$100  
Weld Central Junior High  
Keenesburg  
*Insulation Situation*

Iris Belensky  
8th grade  
$200  
Summit Middle School  
Boulder  
*New and More Energy Efficient Ways to Cure Polymer Clay*

Shelby Messer  
10th grade  
$100  
Genoa-Hugo School  
Hugo  
*Color To Dye For*

Alana Wilbee  
9th grade  
$200  
Palmer High School  
Colorado Springs  
*A Well Spun Yarn*

**Rocky Mountain Association of Geologists**

Isaac Beverlin  
6th grade  
certificate, cash award  
Dolores Middle School  
Dolores  
*ARCHES: Solid Rock To Windows In Time*

Jessika Gill  
7th grade  
certificate, cash award  
Merino Jr/Sr High School  
Merino  
*Lend Me Your Ears!*

Paxton Becker  
7th grade  
certificate, cash award  
Merino Jr/Sr High School  
Merino  
*Sunny Blow! A Comparative Research Between Wind And Solar Energies*

Alex Schnaderbeck  
12th grade  
certificate, cash award  
Sargent Jr/Sr High School  
Monte Vista  
*The Effects Of Limestone On The Productivity Of Aquatic Invertebrates*
Appendix 2

**Rocky Mountain Goats Foundation**

Rebecca Roskowski          8th grade  
$150  
East Middle School         Grand Junction  
*Are Crawfish That Fish Eat Contributing To High Mercury Levels In Large Fish In The Colorado River Basin?*

Brady Buck                 11th grade  
$150  
Wray Jr/Sr High School     Wray  
*Republican River Research Analyzing Aquatic Health*

**Rocky Mountain Inventors' Association**

Zane Willburn              7th grade  
$50  
Mancos Middle School       Mancos  
*Water Purification Off The Grid*

Tim Schneider              12th grade  
$100  
Durango High School        Durango  
*Will Your Vote Count?*

**Society for Advancement of Chicanos and Native Americans in Science**

Rachel Gonzales            6th grade  
$50  
Miller Middle School       Durango  
*Remember This!*

Travis Zuniga              9th grade  
$50  
South High School          Pueblo  
*The Wonder Drug (A Chemical Analysis Of Analgesics To Detect Aspirin)*

**Society for Mining, Metallurgy and Exploration Colorado Section**

Isaac Beverlin             6th grade  
$100  
Dolores Middle School      Dolores  
*ARCHES: Solid Rock To Windows In Time*

Carl Scheevel              7th grade  
$200  
East Middle School         Grand Junction  
*Effectiveness Of Various Ground Covers On Soil Erosion On A 32.5% Grade*

Jeffrey Hibbert            9th grade  
$100  
Lone Star School           Otis  
*Qualitative Assay Of Radionuclide Species In Ash From Coal Combustion*

Jared Bannon               10th grade  
$200  
Branson School             Branson  
*Grassland Regeneration After Juniper Tree Removal. Phase II*

**Society of Manufacturing Engineers Northern Colorado, Chapter 354**

Zane Willburn              7th grade  
certificate, $100 US savings bond  
Mancos Middle School        Mancos  
*Water Purification Off The Grid*

Hannah Wardell             7th grade  
certificate, $100 US savings bond  
Irving Middle School        Colorado Springs  
*Defeating Passive Infrared Sensors*

Adam Goss                  12th grade  
certificate, $150 US savings bond  
Brush High School           Brush  
*Design And Construction Of A Flexible Robotic*

Cameron Kruse              12th grade  
certificate, $150 US savings bond  
Home School                 Colorado Springs  
*The Dirt On Baseball: Engineering a Path Toward Standardizing The Baseball Mudding Process*

**Society of Women Engineers Rocky Mountain Section**

Alexandria Farnsworth      8th grade  
certificate, $75  
Paonia Jr/Sr High School   Paonia  
*Energy With A Spin*

Emily Walck                7th grade  
certificate, $100  
Cortez Middle School       Cortez  
*Washing Water To Ta'纳税*

Nina Popovic-Basta         11th grade  
certificate, $75  
Fairview High School       Boulder  
*Wireless Powercord*

Christy Farnsworth         10th grade  
certificate, $100  
Paonia Jr/Sr High School   Paonia  
*Hydrogen: It's All Down Hill*

**Soil & Water Conservation Society Colorado Chapter**

Courtlyn Carpenter         7th grade  
certificate, ribbon, $35  
East Middle School         Grand Junction  
*Using Evapotranspiration Covers To Reduce Groundwater Pollution*

Casey Campbell             7th grade  
certificate, ribbon, $70  
La Veta Jr/Sr High School  La Veta  
*The Effects Of Coal Bed Methane Produced Water*

Grant Slinger               11th grade  
certificate, ribbon, $35  
Stratton High School       Stratton  
*Effects Of Soil Type On Groundwater Contamination, Phase II*
Appendix 2

Tawney Bleak 9th grade  
Otis Jr/Sr High School  
S.O.S. 2 - Save Our Soil, Phase Two

**SPIE - The International Society for Optics and Photonics**

Liam Jasperse-Sjolander 8th grade  
North Middle School Colorado Springs  
*A Light Delusion: The Effects Of Light Pollution On*

Marlena Widman 10th grade  
The Classical Academy Colorado Springs  
Junkyard Multispectral Imaging

Karthik Kumar-Rao 12th grade  
Fairview High School Boulder  
*Creating A Quantum Optical Source Using Laser Pointers And Parametric Down Conversion*

**The Inventors' Roundtable**

Rahul Shankar 8th grade  
Mountain Ridge Middle School Colorado Springs  
*Co-operating Robots: Behavior-Based Robots Using Subsumption Architecture*

Tim Schneider 12th grade  
Durango High School Durango  
*Will Your Vote Count?*

Zane Willburn 7th grade  
Mancos Middle School Mancos  
*Water Purification Off The Grid*

Cameron Kruse 12th grade  
Home School Colorado Springs  
*The Dirt On Baseball: Engineering a Path Toward Standardizing The Baseball Mudding Process*

**United States Geological Survey**

Casey Campbell 7th grade  
La Veta Jr/Sr High School La Veta  
*The Effects Of Coal Bed Methane Produced Water*

Caleb Kruse 10th grade  
Home School Colorado Springs  
*C The Difference II: The Effect Of Ascorbic Acid On Zooxanthellal Density During Coral Bleaching*

**University of Colorado Health Sciences Center Medical Scientist Training Program**

Samuel Galler 12th grade  
Boulder High School Boulder  
*Hemispheric Lateralization In Auditory Cortex For Words Versus Partial Speech Sounds*

**US Department of Commerce**

Adam Goss 12th grade  
Brush High School Brush  
*Design And Construction Of A Flexible Robotic*

Tim Schneider 12th grade  
Durango High School Durango  
*Will Your Vote Count?*

**Xcel Energy**

Laura Mummery 6th grade  
St Columba Catholic School Durango  
*Blowin' In The Wind*

Molly Nelson & Jason Carwin 9th grade  
Fleming High School Fleming  
*The Effects Of Elevated CO2 Levels On Plants In Different Environments*

**Innovation in Energy Award**

Alexandria Farnsworth 8th grade  
Paonia Jr/Sr High School Paonia  
*Energy With A Spin*

Christy Farnsworth 10th grade  
Paonia Jr/Sr High School Paonia  
*Hydrogen: It's All Down Hill*

**Yale University Science & Engineering Association**

Nina Popovic-Basta 11th grade  
Fairview High School Boulder  
*Wireless Powercord*

**Zahourek Systems, Inc.**

Corissa Kiepke 6th grade  
Paonia Jr/Sr High School Paonia  
*Maniken models, including clay and tool accessories*

Chace Carver 11th grade  
Merino Jr/Sr High School Merino  
*The Effects Of Bisphenol A From Polycarbonate Plastics On Lumbriculus variegates*
Very nice!

Appendix 2

Scholarships

Zonta Club of Boulder County

Amelia Earhart Award

Emily Sandner 7th grade
$100
St. Columba Middle School Durango

Wingin’ It Density Altitude’s Effect On Lift

Scholarships

Adams State College Foundation

Brandy Haller 10th grade
equivalent to one-year resident tuition and fees
Woodlin School Woodrow
Comparison Of Mountain Pine Beetle In Colorado And Surrounding States

Kenzie Witt 10th grade
equivalent to one-year resident tuition and fees
Arriba-Flagler Public School Flagler
Reading: Beyond Black & White

Shelby Messer 10th grade
equivalent to one-year resident tuition and fees
Genoa-Hugo School Hugo
Color To Dye For

Bryant Elrick 11th grade
equivalent to one-year resident tuition and fees
Arriba-Flagler Public School Flagler
Just Passing Through

Darla Rosenbrock 10th grade
equivalent to one-year resident tuition and fees
Brush High School Brush
Energy Content In Different Biodiesel

Cahl Johnson 9th grade
equivalent to one-year resident tuition and fees
Kim School Kim
Rocketry: Does Size Matter

Ben Armstrong 10th grade
equivalent to one-year resident tuition and fees
Monte Vista High School Monte Vista
Enemies Of The Environment: Estrogen Mimics

Bethany Dilda 10th grade
equivalent to one-year resident tuition and fees
Branson School Branson
The Golden Ratio In Natural Adaptations

Jessie Haugen 11th grade
equivalent to one-year resident tuition and fees
Sargent Jr/Sr High School Monte Vista
What’s The Pus? Preventing Staphylococcus Epidermidis

Erika Baker 10th grade
equivalent to one-year resident tuition and fees
Merino Jr/Sr High School Merino
Eye Can’t See Clearly Now! A Comparison Study Of Contact Types With E. coli And S. epidermidis

Antonia Lira 10th grade
equivalent to one-year resident tuition and fees
Lamar High School Lamar
Pig-In-A-Blanket

Colorado School of Mines

Bryant Elrick 11th grade
four year 50% resident tuition scholarship
Arriba-Flagler Public School Flagler
Just Passing Through

Dong-Kou Kim 11th grade
four year 50% resident tuition scholarship
Fountain Valley School of Colorado Springs
Piezo Generator

Michael Crane 11th grade
four year 50% resident tuition scholarship
Genoa-Hugo School Hugo
Do You See What I Hear?

Grant Slinger 11th grade
four year 50% resident tuition scholarship
Stratton High School Stratton
Effects Of Soil Type On Groundwater Contamination, Phase II

David Wu 11th grade
four year 50% resident tuition scholarship
Cherry Creek High School Greenwood Village
Charcoal And Methanol Production By The Destructive Distillation Of Cellulosic Waste

University of Colorado - Boulder

College of Engineering & Applied Science Scholarships

Nicole Reeves & Ethan Merritt 11th grade
$1,500 one year scholarship
Wray Jr/Sr High School Wray
Paycheck Performance

Marlena Widman 10th grade
$2,500 one year scholarship
The Classical Academy Colorado Springs
Junkyard Multispectral Imaging

Max Krakauer 12th grade
$3,000 one year scholarship
Palmer High School Colorado Springs
Testing The Effects Of Gasoline, Ethanol Gasoline Mix, And 2,5-Dimethylfuran On Saccharomyces cerevisiae
Appendix 2

**Ryan Patterson Scholarship**
Andrew West 12th grade
$2,000 non-renewable scholarship to college of choice
Conifer High School Conifer
Regenerative Diesel Fuel Production Utilizing Vegetable Oil And Catalytic Hydrocracking

**Society for Science & the Public**

**American Meteorological Society**
Gwyneth Glissmann 11th grade
certificate
Peak to Peak Charter School Lafayette
Analyzing Arctic Solar Flux And Ice Extent Loss Projections
Brady Buck 11th grade
certificate
Wray High School Wray
Republican River Research Analyzing Aquatic Health

**American Psychological Association**
Allie Martin 9th grade
certificate
Woodlin School Woodrow
The Task At Hand: Is Multitasking Affecting Our Health And Productivity?

**Herbert Hoover Presidential Library Association**
Herbert Hoover Young Engineer Award
Karthik Kumar-Rao 12th grade
certificate, medallion
Fairview High School Boulder
Creating A Quantum Optical Source Using Laser Pointers And Parametric Down Conversion

**Intel Corporation**
Intel Excellence in Computer Science Award
Chelsea Oden 12th grade
certificate, $200 (to be mailed)
Monte Vista High School Monte Vista
The Probability Of Me

**Mu Alpha Theta**
Chelsea Oden 12th grade
certificate
Monte Vista High School Monte Vista
The Probability Of Me

**National Society of Professional Engineers**
Innovative Engineering Award
Cameron Kruse 12th grade
certificate, lapel pin
Home School Colorado Springs
The Dirt On Baseball: Engineering a Path Toward Standardizing The Baseball Mudding Process

**Ricoh**
Joline Lobato 12th grade
certificate
Antonio High School Antonito
Solar Powered Sand Beds And Other Heat Transfer Sources

**Scientific American**
Scientific American Award for Outstanding Achievement
Gwyneth Glissmann 11th grade
certificate, 1-year subscription to Scientific American
Peak to Peak Charter School Lafayette
Analyzing Arctic Solar Flux and Ice Extent Loss Projections
Sarah Guthrie 11th grade
certificate, 1-year subscription to Scientific American
Boulder High School Boulder
The Mechanisms And Actions Of Parthenolide On Platelet 5-HT Secretion In Vitro
Ben Armstrong 10th grade
certificate, 1-year subscription to Scientific American
Monte Vista High School Boulder
Enemies Of The Environment: Estrogen Mimics
Danielle Pite, Kelly Lane & Anna Hermann 12th grade
certificate, 1-year subscription to Scientific American
Boulder High School Boulder
Didymosphenia geminata: The Core Question

**Society for In Vitro Biology**
Sarah Guthrie 11th grade
Certificate
Boulder High School Boulder
The Mechanisms And Actions Of Parthenolide On Platelet 5-HT Secretion In Vitro

**Society for Science & the Public**
SSP Middle School Competition
Nakayla Lestina 8th grade
nomination to enter the SSP national competition
Dove Creek Middle School Dove Creek
Biological Control Of Canada Thistle Phase 2 Analyzing The Spread Of Three Natural Insect Enemies
Garret Cerny 6th grade
nomination to enter the SSP national competition
Eagle County Carter Academy Wolcott
Is It Easier To Always Be Right?
Kelsey Piper 8th grade
nomination to enter the SSP national competition
Summit Middle School Boulder
Going Bananas: Does The Vitamin C Concentration Of A Banana Vary With Ripeness?
Sara Cunningham 6th grade
nomination to enter the SSP national competition
Our Lady of Fatima School Lakewood
Crystals
Sara Volz 7th grade
nomination to enter the SSP national competition
Cheyenne Mountain Charter Colorado Springs
Are Biodiesel Emissions Safer Than Commercial Diesel Emissions?
Zane Willburn 7th grade
nomination to enter the SSP national competition
Mancos Middle School Mancos
Water Purification Off The Grid
### Appendix 2

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
<th>Title</th>
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<td>Casey Campbell</td>
<td>7th</td>
<td>La Veta Jr/Sr High School</td>
<td>The Effects Of Coal Bed Methane Produced Water</td>
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<tr>
<td>Matthew Persons</td>
<td>8th</td>
<td>La Veta</td>
<td>nomination to enter the SSP national competition</td>
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<tr>
<td>Boltz Junior High School</td>
<td></td>
<td>Fort Collins</td>
<td>Tic Tac Text</td>
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<td>Molly Graber</td>
<td>8th</td>
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<td>Ellery Goeltzenlechter</td>
<td>8th</td>
<td>Blevins Junior High School</td>
<td>The Effects Of Bovine Colostrum On Breast Cancer</td>
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<td>8th</td>
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<td>nomination to enter the SSP national competition</td>
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<td>Kassidy Knutson</td>
<td>7th</td>
<td>Wiggins Jr/Sr High School</td>
<td>Effects Of Acid Rain On Structural Materials</td>
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<td>Carl Scheevel</td>
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<td>Katie Weiss</td>
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<td>The effect of fermentation on fruit</td>
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<td>Garrett Glissmann</td>
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<td>Peak to Peak Charter School Lafayette</td>
<td>nomination to enter the SSP national competition</td>
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<td>Rachel Beverlin</td>
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<td>Dolores Middle School Dolores</td>
<td>Determining Position By Interfacing A GPS To The</td>
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<tr>
<td>Matthew Persons</td>
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<td>boltz Junior High School</td>
<td>GEYSER SPRING: A Further Characterization Of Colorado's Only Geyser</td>
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<td>Ellery Goeltzenlechter</td>
<td>8th</td>
<td>Blevins Junior High School</td>
<td>Golden Music: Phi And The Musical Arts</td>
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<tr>
<td>Lorne Muir II</td>
<td>8th</td>
<td>The Classical Academy Colorado Springs</td>
<td>nomination to enter the SSP national competition</td>
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<td>Haley Matteson</td>
<td>6th</td>
<td>North Middle School Colorado Springs</td>
<td>Too Hot Or Not Potato Susceptibility To Pink Rot, Phytophthora erythroseptica</td>
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<tr>
<td>Wyatt Palser</td>
<td>7th</td>
<td>Otis Jr/Sr High School</td>
<td>Microbes Make Electricity</td>
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<td>Zachary Tanner</td>
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<td>Summit Middle School Boulder</td>
<td>Twist But Don't Shout</td>
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<td>Danielle Pite, Kelly Lane &amp; Anna Hermann</td>
<td>12th grade certificate</td>
<td>United States Public Health Service</td>
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<td>Stephen O'Connor-Seville</td>
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<td>Layne Barrett</td>
<td>8th</td>
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<td>K C Zinn</td>
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<td>Didymosphenia geminata: The Core Question</td>
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<td>Danielle Pite, Kelly Lane &amp; Anna Hermann</td>
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<td>United States Metric Association</td>
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<td>Boulder High School</td>
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<td>Didymosphenia geminata: The Core Question</td>
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<td>United States Public Health Service</td>
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## 2007/2008 Expense Report
### September 1, 2007-August 31, 2008

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<th>Category Descriptions</th>
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<th>Actual</th>
<th>Difference</th>
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<td>Awards Ceremony</td>
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### Appendix 3

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<tr>
<th>Category Description</th>
<th>Budget</th>
<th>Actual</th>
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<td>Thank Yous</td>
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<td>Regional Fair Directors</td>
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