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

April 5 - 7, 2007
in the Lory Student Center
at Colorado State University
Fort Collins, Colorado

Colorado State Science Fair, Inc.

2007 ANNUAL REPORT
2007 ANNUAL REPORT

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).
The fifty-second Colorado Science and Engineering Fair was held at Lory Student Center on the Colorado State University campus on April 5-7, 2007.

This year, CSEF winners were chosen from among 281 projects represented by 302 finalists from 114 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 50 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 700 people attended the Awards Ceremony this year.

The 2007 Colorado Science and Engineering Fair had 24 sponsors. Sponsors included 10 Platinum Sponsors (providing over $2,500 of support each), 3 Gold Sponsors ($1,000 – $2,500 of support each), 1 Silver Sponsor ($750 - $1,000 of support each) and 11 Regular Sponsors ($500 - $750 of support each). In addition, there were 16 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, Syracuse Pulp and Paper Foundation and University of Colorado - Boulder were also presented. Adams State College awarded twelve 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 Syracuse Pulp and Paper Foundation awarded one $17,000 scholarship to State University of New York. 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 Dr. Stephen Thompson, Professor of Chemistry, Director of the Center for Science, Mathematics & Technology Education, University Distinguished Teaching Scholar and professional fire eater. Dr. Thompson’s talk was entitled “Fire in the Mind.”

The origin of fire is lost in antiquity and yet all ancient communities possess myths about how fire was given and kept. Since the beginning of time, fire has been a powerful element in the lives of people. Fire transforms, consumes, cooks, warms, protects, and induces meditation and revenue. Over 50,000 years ago, indigenous people have used controlled fire to recycle nutrients and to enhance hunting. The fire stick is still a central part of aboriginal culture in Australia, which may be described as a continent shaped by fire. For the Greeks, fire was a fundamental element and part of all material contribution. Through the 17\textsuperscript{th} and 19\textsuperscript{th} centuries, fire was one of the great problems in science, as well as an element in poetry and magic. Lavoisier and Priestly developed the modern interpretation of fire with the discovery of dioxygen and carbon dioxide. We now know that hydrocarbon combustion systems are dynamic chain reaction systems that possess strange chaotic properties and interesting macroscopic-structures. Dr. Stephen Thompson has studied the scientific culture, magical and spiritual nature of fire for over 50 years and gave a demonstration of the ultimate human interaction with fire.

(See Appendix 1 – 2007 CSEF Schedule)
2007 Colorado Science and Engineering Fair

Top Awards

The top Senior Division individual project exhibitor of the 52nd 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 Chelsea Oden, Monte Vista High School, Monte Vista, grade 11, for the project A Wrinkle In Prime: An Investigation Of Prime Properties In A Four-Dimensional Sieve Of Eratosthenes. Second place for best individual project, and also a winner of an all-expense paid trip to compete at the Intel ISEF was Atticus Bergman, Fairview High School, Boulder, grade 11, for the project That Flocking Convection. Awarded third place for best individual project was Daniel Smith, Herzl Rocky Mountain Hebrew Academy, Denver, grade 11, for the project Reading Fingers: A System For Automatic Guitar Composition. The first place Senior Division team project and winners of an all-expense paid trip to compete in the Intel ISEF were Bailey Leppek and Derek Kramer, Cherry Creek High School, Greenwood Village, grade 11, for the project Ethanol Synthesis From Different Biodegradable Household Waste Products.

The winner of the Ralph F. Desch Memorial Technical Writing Award was John Huffman from Eagle Valley High School, Gypsum, grade 12, for the project Response Of Euglena gracilis To Magnesium Chloride Exposure.

The winner of the Senior Division Student Choice Award was Leslie Hase, Merino Jr/Sr High School, Merino grade 12, for the project A Combat Against Cavity Causes Bacteria: Raisins As A Functional Food For Oral Health. The Junior Division Student Choice winner was Abbi Helfer, North Middle School, Colorado Springs, grade 7, for the project Pan-Demonium.

The winner of the Poster Art Contest was Marlee Canada, home schooled, Mosca.

The winner of the Lockheed Martin CSEF Teacher of the Year Award was Haydee Phelps of Summit Middle School, Boulder. Ms. Phelps received a $3,000 grant to use towards scientific research in her 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: Avery DiUbaldo, Cherry Creek Challenge School, Denver, grade 8; Majed Aldhamari, Blevins Junior High School, Fort Collins, grade 8; Cody Hervert, Eagle County Charter Academy, Edwards, grade 8; Katie Romano, Harrison Middle School, Canon City, grade 6; Jorge Arrendondo, Cheyenne Wells Middle School, Cheyenne Wells, grade 8; Dylan Cleveland, Canon City Middle School, Canon City, grade 6; Taylor Bond, St. Peter’s Lutheran School, Monte Vista, grade 6; Isaiah Branch-Boyle, St. Columba School, Durango, grade 8; Jana Elrick, Arriba-Flagler School, Flagler, grade 7; Noah Jordan, Windsor Charter Academy, Windsor, grade 6; Alyssa Loveland, Lamar Middle School, Lamar, grade 7; Joshua Shettler, Holy Family Catholic School, Grand Junction, grade 8; Laci Pennington, Lamar Middle School, Lamar, grade 7; Kally Williams, Cortez Middle School, Cortez, grade 6; Brenna Christensen, Miller Middle School, Durango, grade 6; Phillip Foy, Otis Jr/Sr High School, Otis, grade 8; Sami Hourieh, Parkview Elementary School, Lamar, grade 6; and Alexa Major, Fowler Junior High School, Fowler, grade 7.
<table>
<thead>
<tr>
<th>Adams State College</th>
<th>Colorado School of Mines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kaitlin Hornig</strong>, Sargent Jr/Sr High School, Monte Vista, grade 10, for the project <em>The Equine Emotional And Physical Behavior Connection.</em></td>
<td><strong>Austin Nichols</strong>, Brush High School, Brush, grade 11, for the project <em>The Controlled Growth Of Penitente Structures.</em></td>
</tr>
<tr>
<td><strong>Dustin Brady</strong>, Wray High School, Wray, grade 11, for the project <em>Beats Of The Brain.</em></td>
<td><strong>Alex Schnaderbeck</strong>, Sargent Jr/Sr High School, Monte Vista, grade 11, for the project <em>Shape Up: The Relationship Between Trout Habitat And Differently Shaped Rocks.</em></td>
</tr>
<tr>
<td><strong>Sarah Cummings</strong>, Brush High School, Brush, grade 10, for the project <em>Leaching Of Metals From Cookware By Acidic Solutions.</em></td>
<td><strong>Daniel Smith</strong>, Herzl Rocky Mountain Hebrew Academy, Denver, grade 11, for the project <em>Reading Fingers: A System For Automatic Guitar Composition.</em></td>
</tr>
<tr>
<td><strong>Bailey Jones</strong>, Canon City High School, Canon City, grade 12, for the project <em>Which Rock, What Time, Which Fossils Can You Find?</em></td>
<td><strong>Chelsea Oden</strong>, Monte Vista High School, Monte Vista, grade 11, for the project <em>A Wrinkle In Prime: An Investigation Of Prime Properties In A Four-Dimensional Sieve Of Eratosthenes.</em></td>
</tr>
<tr>
<td><strong>Seth Brouwer</strong>, Arriba-Flagler School, Flagler, grade 10, for the project, <em>What’s The Coolest Oil.</em></td>
<td><strong>Atticus Bergman</strong>, Fairview High School, Boulder, grade 11, for the project <em>That Flocking Convection.</em></td>
</tr>
<tr>
<td><strong>Keith Vieweg</strong>, Monte Vista On-Line Academy, Monte Vista, grade 12, for the project <em>Cooling Results: The Effect Of Temperature On The Warp Of Plastic In Manufacturing.</em></td>
<td><strong>Andrew Flynn</strong> and <strong>Wil Cocke</strong>, Palmer High School, Colorado Springs, grade 11, for the project <em>Determining The Point Of Entropy: Building A Lorenzian Waterwheel.</em></td>
</tr>
<tr>
<td><strong>Alex Schnaderbeck</strong>, Sargent Jr/Sr High School, Monte Vista, grade 11, for the project <em>Shape Up: The Relationship Between Trout Habitat And Differently Shaped Rocks.</em></td>
<td><strong>Chelsea Oden</strong>, Monte Vista High School, Monte Vista, grade 11, for the project <em>A Wrinkle In Prime: An Investigation Of Prime Properties In A Four-Dimensional Sieve Of Eratosthenes.</em></td>
</tr>
<tr>
<td><strong>Adam Goss</strong>, Brush High School, Brush, grade 11, for the project <em>Computer Simulation Of Erosion Patterns.</em></td>
<td><strong>Maxwell Wheeler</strong>, Nederland Jr/Sr High School, grade 12, for the project <em>A New Frequency For Help! Exploring Propagation Characteristics Of The 500kHz Frequency.</em></td>
</tr>
<tr>
<td><strong>Jennifer Manfredo</strong>, Canon City High School, Canon City, grade 9, for the project <em>Auditory Processing: Can You Interpret It Now?</em></td>
<td><strong>Bailey Leppek</strong> and <strong>Derek Kramer</strong>, Cherry Creek High School, Greenwood Village, grade 11, for the project <em>Ethanol Synthesis From Different Biodegradable Household Waste Products.</em></td>
</tr>
<tr>
<td><strong>Sarah Gunkel</strong>, Springfield Jr/Sr High School, Springfield, grade 10, for the project <em>Bacterial Party.</em></td>
<td><strong>Ryan Patterson Scholarship</strong></td>
</tr>
<tr>
<td><strong>Tucker Dunivan</strong>, Walsh Jr/Sr High School, Walsh, grade 11, for the project <em>Stress Test, Will Stress Cause Whiskers?</em></td>
<td><strong>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 2007 winner was Amanda Rock, Wray High School, Wray, grade 12, for the project Biofuels: Oily Alternatives?</strong></td>
</tr>
<tr>
<td><strong>Hadayn Christensen</strong>, Monte Vista High School, Monte Vista, grade 10, for the project <em>The Effects Of Disease And Damage On Malt Friability.</em></td>
<td>(See Appendix 2 – CSEF Press Release)</td>
</tr>
</tbody>
</table>
2007 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 40 countries to share ideas, showcase cutting-edge science and compete for over $3 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 58 years by Science Service, Inc., 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 58th Intel ISEF held in Albuquerque, NM May 13 – 18, 2007.

Grand Awards

DJ Horton from Crawford, CO won $1,500 (2nd Place) in Animal Sciences.

Kaitlyn Lingus from Trinchera, CO won $1,000 (3rd Place) in Plant Sciences.

Eric Keeling from La Veta, CO won $1,000 (3rd Place) in Environmental Sciences.

Cameron Kruse from Colorado Springs, CO won $1,000 (3rd Place) in Engineering.

Atticus Bergman from Boulder, CO won $500 (4th Place) in Physics.

Matt Wenger from Colorado Springs, CO won $500 (4th Place) in Physics.

Kaitlin Hornig from Monte Vista, CO won $500 (4th Place) in Animal Sciences.

Special Awards

Cameron Kruse won a 6 – 8 week paid internship from Agilent Technologies. Cameron also won $150 (2nd Place) from the Patent and Trademark Office Society.

Atticus Bergman won $800 (2nd Place), a one-year AAPT and APS student membership, a certificate from both AAPT and APS, as well as subscriptions to AAPT “The Physics Teacher” Journal and other APS journals from the American Association of Physics Teachers and the America Physical Society.

Anika Petach from Boulder, CO won $700 (2nd Place), a t-shirt and a one-year membership in the APS from the American Phytopathological Society.

Gabriel Sachtler-Smith from Nederland, CO won $250 (3rd Place), one-year subscription to ASHS’s “HortScience” and “Hort Technology” and a framed certificate from the American Society for Horticulture Science.

Alex Schnaderbeck from Monte Vista, CO won $700 (2nd Place) and a plaque from the American Veterinary Medical Association.

DJ Horton won a scholarship in the amount of $25,000 that can be used at a university of his choosing from Ricoh.

Government Awards

Alex Schnaderbeck won an $8,000 scholarship from the Office of Naval Research on behalf of the US Navy and Marine Corps.

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

Chelsea Oden from Monte Vista, CO won $1,500 (2nd Place) from the United States Air Force and $1,000 US savings bond from the United States Army.

Kaitlin Hornig won three $1,000 US savings bonds, $300 cash, a gold medallion, a certificate and an all expense paid trip to Operation Cherry Blossom in Tokyo, Japan from the United States Army.

Kaitlyn Lingus won three $1,000 US savings bonds and is the alternate to attend Operation Cherry Blossom in Tokyo, Japan from the United States Army.
**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
- Colorado Dental Association
- Colorado State University
- Office of the Provost/Senior Vice President
- College of Natural Sciences
- CSMATE
- Intel Foundation
- Lockheed Martin
- LSI Logic
- Qwest
- Seagate Technology
- US Department of Commerce/NTIA/ITS
- Xcel Energy Foundation

**Gold Sponsors**
(Providing $1,000 - $2,500 in support of CSEF)

- Ball Corporation
- Colorado Medical Society
- Education Foundation

**Silver Sponsors**
(Providing $750 - $1,000 in support of CSEF)

- US Department of Commerce/NIST
- Colorado State University
- College of Engineering

**Regular Sponsors**
(Providing $500 - $750 in support of CSEF)

- Anheuser-Busch, Inc.
- Canberra Industries
- Colorado Engineering Council
- ICAT Managers
- IEEE/LEOS
- 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
- Ag Services
- Albertson’s Community Partner’s Program
- Sam and Eileen Bartlett
- Eric & Lisa Burt
- Gina Holland
- King Soopers
- Marjorie McLellan
- Dr. Robert Morrow
- Pro Sports
- Sundyne Corporation
- URS 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

Denver Chapter of the IEEE/LEOS Society
Keith Kasunic – Vice President
Regular Member since 2006

Colorado Dental Association
Carol Morrow - Secretary
Regular Member since 2002

Colorado Engineering Council
Sam Bartlett – Treasurer
Regular Member since 2001

Agilent Technologies
Dave Barton
Regular Member since 2005

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
Elemer Bernath
Associate Member since 2002

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
Dean Holzkamp
Regular Member since 2003

National Renewable Energy Laboratory
Doug Hooker
Regular Member since 2007

US Department of Commerce/NIST
Stephanie Hooker
Regular Member since 2004

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

### MEMBERS AT LARGE

<table>
<thead>
<tr>
<th>Members At Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judy Cara</td>
</tr>
<tr>
<td>David Clark</td>
</tr>
<tr>
<td>Pat Farnsworth</td>
</tr>
<tr>
<td>Steve Iona</td>
</tr>
<tr>
<td>Charles Johnson</td>
</tr>
<tr>
<td>Beverly Meier</td>
</tr>
<tr>
<td>Candus Muir</td>
</tr>
<tr>
<td>Judy Prester</td>
</tr>
<tr>
<td>Doug Steward</td>
</tr>
<tr>
<td>Dan Van Gorp</td>
</tr>
</tbody>
</table>

### PAST CSEF DIRECTORS

<table>
<thead>
<tr>
<th>Past CSEF Directors</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Charles Bragaw</td>
<td>1956 – 1967</td>
</tr>
<tr>
<td>Calvin Fisher</td>
<td>1968 – 1974</td>
</tr>
<tr>
<td>Sam Shushan</td>
<td>1975 – 1977</td>
</tr>
<tr>
<td>Gordon Moore</td>
<td>1978 – 1979</td>
</tr>
<tr>
<td>*Russell B. Stoner</td>
<td>1979 – 1981</td>
</tr>
<tr>
<td>James R. Sites</td>
<td>1984 – 1985</td>
</tr>
<tr>
<td>Lloyd Walker</td>
<td>1986 – 1988</td>
</tr>
<tr>
<td>Lynn Butler</td>
<td>1991 – 1992</td>
</tr>
<tr>
<td>Kate Taylor</td>
<td>1992 – 1994</td>
</tr>
<tr>
<td></td>
<td>1997 - 1998</td>
</tr>
<tr>
<td>Christal McDougall</td>
<td>1995 – 1996</td>
</tr>
<tr>
<td>Lucy Adams</td>
<td>1998 – 1999</td>
</tr>
<tr>
<td>Courtney Butler</td>
<td>1999 – present</td>
</tr>
</tbody>
</table>

* *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

52nd Annual Colorado Science and Engineering Fair

Lory Student Center  Fair Headquarters: 2nd Floor Lobby  Colorado State University

Thursday, April 5, 2007

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 BEFORE 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>
</tbody>
</table>

**Finalists MUST stay with their exhibit until Display & Safety Check has been completed and an Official Photo has been taken. Finalists must be out of the exhibit area by noon.**

<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>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 PM</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>Finalists 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.**

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 – 5:00 PM</td>
<td>ISEF Rule Updates for 2008</td>
<td>Room 213/215</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>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 PM</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>Finalists 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>

Friday, April 6, 2007

<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: Stephen Thompson – Fire in the Mind</td>
<td>CSU Theatre</td>
</tr>
<tr>
<td>10:30 AM – 3:00 PM</td>
<td>Tours: Finalists, 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>Fort Collins High School</td>
</tr>
</tbody>
</table>

Saturday, April 7, 2007

<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>11:00 AM – 12:00 PM</td>
<td>Pizza Party: Sponsored by Lockheed Martin and provided by Villa Pizza for Finalists, sponsors, families and judges.</td>
<td>Main Ballroom</td>
</tr>
<tr>
<td>12:00 AM – 1:00 PM</td>
<td>Exhibit Dismantling</td>
<td></td>
</tr>
</tbody>
</table>

**Everything must be out by 1:00 PM.**

1:00 PM – 3:00 PM Board of Director’s Meeting – open to all Room 213/215

The upcoming Intel International Science and Engineering Fair will be in Albuquerque, NM May 13 – 18, 2007.
Next year’s Colorado Science and Engineering Fair will be April 10 – 12, 2008.
(Dates are subject to change.)
## 2007 Colorado Science and Engineering Fair

### Grand Awards Press Release

#### Junior Best Individual Projects

<table>
<thead>
<tr>
<th>First Place</th>
<th>Erik Schnaderbeck</th>
<th>8th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>What Water Characteristics Affect Aquatic Invertebrates At Tailwater Fisheries</em></td>
<td>Sargent Jr/Sr High School</td>
<td>Monte Vista</td>
</tr>
<tr>
<td>Second Place</td>
<td>Ambrose Soehn</td>
<td>8th grade</td>
</tr>
<tr>
<td><em>Natural vs. Synthetic: Polymers In Today's World</em></td>
<td>Summit Middle School</td>
<td>Boulder</td>
</tr>
<tr>
<td>Third Place</td>
<td>Alexandria Farnsworth</td>
<td>7th grade</td>
</tr>
<tr>
<td><em>Stop! Type 2 Diabetes In Adolescents</em></td>
<td>Paonia Jr/Sr High School</td>
<td>Paonia</td>
</tr>
</tbody>
</table>

#### Honorable Mention

<table>
<thead>
<tr>
<th>Junior Best Individual Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>8th grade</td>
</tr>
<tr>
<td><em>What About the Brakes??!!</em></td>
</tr>
<tr>
<td>Lake County Middle School</td>
</tr>
<tr>
<td>8th grade</td>
</tr>
<tr>
<td><em>A Wrinkle In Prime: An Investigation Of Prime Properties In A Four-Dimensional Sieve Of Eratosthenes</em></td>
</tr>
<tr>
<td>11th grade</td>
</tr>
<tr>
<td><em>Optimum Growth Of Artemia Salina</em></td>
</tr>
<tr>
<td>10th grade</td>
</tr>
<tr>
<td><em>Thinking Without Thinking: A Study Of Subconscious Biases Towards The Middle East</em></td>
</tr>
<tr>
<td>10th grade</td>
</tr>
</tbody>
</table>

#### Senior Best Individual Projects

<table>
<thead>
<tr>
<th>First Place</th>
<th>Chelsea Oden</th>
<th>11th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>A Wrinkle In Prime: An Investigation Of Prime Properties In A Four-Dimensional Sieve Of Eratosthenes</em></td>
<td>Monte Vista High School</td>
<td>Monte Vista</td>
</tr>
<tr>
<td>Second Place</td>
<td>Atticus Bergman</td>
<td>11th grade</td>
</tr>
<tr>
<td><em>That Flocking Convection</em></td>
<td>Fairview High School</td>
<td>Boulder</td>
</tr>
<tr>
<td>Third Place</td>
<td>Daniel Smith</td>
<td>11th grade</td>
</tr>
<tr>
<td><em>Reading Fingers: A System For Automatic Guitar Composition</em></td>
<td>Herzl Rocky Mountain Hebrew Academy</td>
<td>Denver</td>
</tr>
</tbody>
</table>

#### Senior Best Team Projects

<table>
<thead>
<tr>
<th>First Place</th>
<th>Bailey Leppke</th>
<th>11th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ethanol Synthesis From Different Biodegradable Household Waste Products</em></td>
<td>Palmer High School</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td>Second Place</td>
<td>Andrew Flynn</td>
<td>11th grade</td>
</tr>
<tr>
<td><em>Determining The Point Of Entropy: Building A Lorenzian Waterwheel</em></td>
<td>Cherry Creek High School</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td>Third Place</td>
<td>Laramie Ulam</td>
<td>12th grade</td>
</tr>
<tr>
<td><em>Optimum Growth Of Artemia Salina</em></td>
<td>Canon City High School</td>
<td>Canon City</td>
</tr>
<tr>
<td>Honorable Mention</td>
<td>Rebecca Siegel</td>
<td>10th grade</td>
</tr>
<tr>
<td><em>Thinking Without Thinking: A Study Of Subconscious Biases Towards The Middle East</em></td>
<td>Palmer High School</td>
<td>Colorado Springs</td>
</tr>
</tbody>
</table>

#### Junior Best Team Projects

<table>
<thead>
<tr>
<th>First Place</th>
<th>Jonathan Bentley</th>
<th>8th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Cancer Myths: Are They True? (A Study Of The Effects Of Vitamins &amp; Chemicals On HeLa Cell Growth)</em></td>
<td>Stanley British Primary School</td>
<td>Denver</td>
</tr>
<tr>
<td>Second Place</td>
<td>Aiden Acquisto</td>
<td>6th grade</td>
</tr>
<tr>
<td><em>Reaction With Distraction</em></td>
<td>Stanley British Primary School</td>
<td>Denver</td>
</tr>
<tr>
<td>Third Place</td>
<td>Alex Kerr</td>
<td>8th grade</td>
</tr>
<tr>
<td><em>Look Me In The Eyes</em></td>
<td>Calhan Middle School</td>
<td>Calhan</td>
</tr>
</tbody>
</table>

#### Junior Animal Sciences

<table>
<thead>
<tr>
<th>First Place</th>
<th>Erik Schnaderbeck</th>
<th>8th grade</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>What Water Characteristics Affect Aquatic Invertebrates At Tailwater Fisheries</em></td>
<td>Sargent Jr/Sr High School</td>
<td>Monte Vista</td>
</tr>
<tr>
<td>Second Place</td>
<td>Nakayla Lestina</td>
<td>7th grade</td>
</tr>
<tr>
<td><em>Biological Control Of Canada Thistle - Analyzing Three Natural Insect Enemies</em></td>
<td>Dove Creek Middle School</td>
<td>Dove Creek</td>
</tr>
<tr>
<td>Third Place</td>
<td>Callie Varra</td>
<td>8th grade</td>
</tr>
<tr>
<td><em>What Grade Is Your Egg?</em></td>
<td>Fruita 8/9 School</td>
<td>Fruita</td>
</tr>
<tr>
<td>Honorable Mention</td>
<td>Randi Timmons</td>
<td>6th grade</td>
</tr>
<tr>
<td><em>Something’s Fishy</em></td>
<td>Walsh Jr/Sr High School</td>
<td>Walsh</td>
</tr>
</tbody>
</table>
Appendix 2

**Senior Animal Sciences**

**First Place**
DJ Horton 12th grade  
*Biological Control Of A Common Corn Criminal: Phase 4*  
Hotchkiss High School Hotchkiss

**Second Place**
Caleb Kruse 9th grade  
*C The Difference: The Effect Of Ascorbic Acid On Fragmented Coral*  
Home School Colorado Springs

**Third Place**
Katlin Hornig 10th grade  
*The Equine Emotional And Physical Behavior Connection*  
Sargent Jr/Sr High School Monte Vista

**Honorable Mention**
Weston Charles 10th grade  
*Fowl Company*  
Arriba-Flagler School Flagler

**Team Nomination**
Laramie Ulam 12th grade  
*Optimum Growth Of Artemia Salina*  
Canon City High School Canon City

**Senior Behavioral & Social Sciences**

**First Place**
Rachel Wynn 11th grade  
*Social Cognition And Working Memory*  
Coronado High School Colorado Springs

**Second Place**
Kevin Howard 12th grade  
*Chord Processing And The Critical Band*  
Boulder High School Boulder

**Third Place**
Julia Leonard 11th grade  
*From Plague To Bird Flu: The Media's Influence In Mass Hysteria*  
Palmer High School Colorado Springs

**Honorable Mention**
Heather Anderson 10th grade  
*Can Spiders Party?*  
Peyton High School Peyton

**Honorable Mention**
Dustin Brady 11th grade  
*Beats Of The Brain*  
Wray High School Wray

**Team Nomination**
Rebecca Siegel 10th grade  
Zoe Dostal 10th grade  
*Thinking Without Thinking: A Study of Subconscious Biases Towards the Middle East*  
Palmer High School Colorado Springs

**Junior Behavioral & Social Sciences**

**First Place**
Diane Schulze 7th grade  
*Human Embarrassment*  
Cherry Creek Challenge School Denver

**Second Place**
Reno Tsosie 8th grade  
*Cultural Relevance In The Navajo Context*  
Cortez Middle School Cortez

**Third Place**
Joshua Garcia 8th grade  
*Brain Age: How Old Is Your Brain?*  
Monte Vista Middle School Monte Vista

**Honorable Mention**
Jason Francis 7th grade  
*Does The Type Of Music Effect Your Heart Rate?*  
Lamar Middle School Lamar

**Honorable Mention**
Zoe Phillip 8th grade  
*Did You See That*  
Limon Middle School Limon

**Honorable Mention**
Katie Savolt 7th grade  
*Walking To A Beat*  
Yuma Middle School Yuma

**Junior Chemistry**

**Junior Division**

**First Place**
Ambrose Soehn 8th grade  
*Natural vs. Synthetic: Polymers In Today's World*  
Summit Middle School Boulder

**Second Place**
Jordan Lestina 8th grade  
*L-Ascorbic Acid Analyzing Foods By Titration Phase 2, Quantifying The Effects Of Heat & Cold On Vitamin C*  
Dove Creek Middle School Dove Creek
### Appendix 2

#### Third Place
- **Travis Zuniga**
  - 8th grade
  - *How Bright Is Your Smile? (The Effects Of Toothpaste On Stains)*
  - Roncalli Middle School
  - Pueblo

#### Honorable Mention
- **Thayer Sauter**
  - 6th grade
  - *Rust*
  - Wiggins Elementary School
  - Wiggins

- **Austin Traphagan**
  - 8th grade
  - *Smile--It's About Time*
  - Yuma Middle School
  - Yuma

#### Honorable Mention
- **Anthony Azari**
  - 7th grade
  - *Go Bananas*
  - Brentwood Middle School
  - Greeley

- **Tessa Kester**
  - 7th grade
  - *Why Did My Hair Turn Green?*
  - West Middle School
  - Grand Junction

#### Senior Chemistry

**First Place**
- **David Wu**
  - 10th grade
  - *Analyzing Hydrogen Storage In A Mg-Al-Zn Alloy*
  - Cherry Creek High School
  - Greenwood Village

**Second Place**
- **Kyle Mordan**
  - 10th grade
  - *Safety Of Mixing Chemical Wastes With Concrete As A Waste Disposal Technique*
  - Cherry Creek High School
  - Greenwood Village

**Third Place**
- **Sarah Cummings**
  - 10th grade
  - *Leaching Of Metals From Cookware By Acidic Solutions*
  - Brush High School
  - Brush

#### Honorable Mention
- **Tim Schneider**
  - 11th grade
  - *Photonics*
  - Durango High School
  - Durango

#### Junior Earth & Space Sciences

**First Place**
- **Gwyneth Glissmann**
  - 10th grade
  - *Mitigating Global Warming By Utilizing Albedo Geoengineering*
  - Peak to Peak Charter School
  - Lafayette

**Second Place**
- **Stephen Wilfong**
  - 12th grade
  - *Return Of The Deadly Snow: A Study Of Avalanche Risk Based On Layers And Types Of Snow*
  - Moffat High School
  - Moffat

**Third Place**
- **Darci Dobson**
  - 12th grade
  - *Looking For Patterns Of Deuterium In The Local Galactic Disk*
  - Monte Vista High School
  - Monte Vista

#### Senior Earth & Space Sciences

**First Place**
- **Amanda Rock**
  - 12th grade
  - *Biofuels: Oily Alternatives?*
  - Wray High School
  - Wray

**Second Place**
- **Mandi Loucks**
  - 12th grade
  - *Should Hybrids Fly?*
  - Grand Junction High School
  - Grand Junction

**Third Place**
- **Christy Farnsworth**
  - 9th grade
  - *Hydrogen A New Twist*
  - Paonia Jr/Sr High School
  - Paonia
Appendix 2

Team Nomination
Bailey Leppek 11th grade
Derek Kramer 11th grade
Ethanol Synthesis From Different Biodegradable Household Waste Products
Cherry Creek High School Greenwood Village

Junior Engineering
First Place
Nathan Weeks 7th grade
Sound Barrier Designs
The Classical Academy Colorado Springs

Second Place
Charles Bergren 7th grade
AM Loop Antenna Design
Southern Hills Middle School Boulder

Third Place
Morgan Wilson 7th grade
Warming Formula With Formulas
Sargent Jr/Sr High School Monte Vista

Honorable Mention
Addison Kramer 8th grade
Ecologically Friendly Roofing
Cherry Creek Challenge School Denver

Honorable Mention
Graham Robinson 8th grade
Keeping Planes From Crashing!
Cortez Middle School Cortez

Senior Engineering
First Place
Daniel Smith 11th grade
Reading Fingers: A System For Automatic Guitar Composition
Herzl Rocky Mountain Hebrew Academy Denver

Second Place
Cameron Kruse 11th grade
The Dirt On Baseball: Standardizing The Baseball Mudding Process
Home School Colorado Springs

Third Place
Ian Donaldson 10th grade
Dynamic Axial Deformation Trends Of High-Strength Metal Tube Core Automotive Crush Zones
Broomfield High School Broomfield

Honorable Mention
Maxwell Wheeler 12th grade
A New Frequency For Help! Exploring Propagation Characteristics Of The 500 kHz Frequency
Nederland Jr/Sr High School Nederland

Honorable Mention
Daniel Armstrong 12th grade
Designing A Digital Hearing Aid Program
Monte Vista High School Monte Vista

Junior Environmental Sciences
First Place
Alexandra Proietti 8th grade
Fuel Of The Future, Toasty With Tamarisk
Holy Family Catholic School Grand Junction

Second Place
Lorne Muir II 7th grade
Hydrophobic Soil Rehabilitation
The Classical Academy Colorado Springs

Third Place
Corey Becker 8th grade
Get'n Down 'n' Dirty
Monte Vista Middle School Monte Vista

Honorable Mention
Vincent Burkhardt 7th grade
Do Car Associated Chemicals Affect Daphnia Mortality?
Stanley British Primary School Denver

Honorable Mention
Hannah Carrese 8th grade
Hg - The Lethal Element: Emissions From A Coal-Fired Power Plant
North Middle School Colorado Springs

Honorable Mention
Brooke Grissom 8th grade
Soil Erosion: A Growing Problem
Fowler Junior High School Fowler

Senior Environmental Sciences
First Place
Eric Keeling 12th grade
A Study On Rhizofiltration With Helianthus annuus And Its Effect On Coal Bed Methane Produced Water
La Veta Jr/Sr High School La Veta

Second Place
Alex Schnaderbeck 11th grade
Shape Up: The Relationship Between Trout Habitat And Differently Shaped Rocks.
Sargent Jr/Sr High School Monte Vista

Third Place
John Huffman 12th grade
Response Of Euglena gracilis To Magnesium Chloride Exposure
Eagle Valley High School Gypsum

Honorable Mention
Christopher Krause 9th grade
Operation: Dig It!
The Classical Academy Colorado Springs
Appendix 2

Honorable Mention
Evan Duggan 12th grade
Removal Of Targeted Organic Compounds From Municipal Waste Water
Cherry Creek High School Greenwood Village

Junior Mathematics & Computer Sciences

First Place
Garrett Glissmann 7th grade
Identifying Minutiae Within A Fingerprint
Peak to Peak Charter School Lafayette

Second Place
Rahul Shankar 7th grade
A Software Tool To Calculate Alignment Of Nucleotide Sequences To Classify The Cryptoprocta Ferox
Mountain Ridge Middle School Colorado Springs

Third Place
Jack Donelson 8th grade
Predicting Success In Basketball By Statistical Analysis
Mackintosh Academy Littleton

Honorable Mention
Austin Cerny 8th grade
Slow Computer Got You Down?
Eagle County Charter Academy Edwards

Senior Mathematics & Computer Sciences

First Place
Chelsea Oden 11th grade
A Wrinkle In Prime: An Investigation Of Prime Properties In A Four-Dimensional Sieve Of Eratosthenes
Monte Vista High School Monte Vista

Second Place
Tommaso Buvoli 12th grade
Machine Learning And Data Classification
Fairview High School Boulder

Third Place
Ian Springer 12th grade
Inside The Matrix: Solving Sudoku Puzzles Using Visual Basic
Lamar High School Lamar

Team Nomination
Andrew Flynn 11th grade
Wil Cocke 11th grade
Determining The Point Of Entropy: Building A Lorenzian Waterwheel
Palmer High School Colorado Springs

Junior Medicine & Health

First Place
Alexandria Farnsworth 7th grade
Stop! Type 2 Diabetes In Adolescents
Paonia Jr/Sr High School Paonia

Second Place
Russell Tappy 7th grade
Performance Enhancers, Are They In You? The Effect Of Performance Enhancers On G. portentosa
Merino Jr/Sr High School Merino

Third Place
Soren Frykholm 8th grade
The Nose Knows: A Better Way To Breathe?
Summit Middle School Boulder

Honorable Mention
Casey Campbell 6th grade
Reaction Action
La Veta Elementary School La Veta

Honorable Mention
Susannah Rogers 8th grade
It's All My Brother's Fault: The Effects Of Chloroquine On Melanin And Melanoma
North Middle School Colorado Springs

Honorable Mention
Tanner Zimmerman 6th grade
Mercy MRSA
Riverside Middle School New Castle

Honorable Mention
Zack Cleemmons 7th grade
24
The Classical Academy Colorado Springs

Honorable Mention
Holly Isbell 7th grade
To Be Healthy Or Not To Be, That Is The Question: The Effect Of Omega-3 And Omega-6 On C. elegans
Merino Jr/Sr High School Merino

Honorable Mention
John Gordon 6th grade
Arches, Loops, And Whorls
American Academy Lone Tree

Team Nomination
Jonathan Bentley 8th grade
Michelle Saipe 8th grade
Cancer Myths: Are They True? (A Study Of The Effects Of Vitamins & Chemicals On HeLa Cell Growth)
Stanley British Primary School Denver

Senior Medicine & Health

First Place
Ashley Pollock 12th grade
Tissue Distribution And Mitochondrial Function Of The Parkinson's Disease Related Protein DJ-1
Wiggins Jr/Sr High School Wiggins

Second Place
Nicholas Greos 12th grade
Evaluation Of Concussions In Teen Sports
Cherry Creek High School Greenwood Village

Third Place
Young Kim 11th grade
Chlorophyll As A Sunscreening Agent
Cherry Creek High School Greenwood Village
## Appendix 2

### Honorable Mention

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jenna Gerber</td>
<td>12th</td>
<td>Walsh Jr/Sr High School</td>
</tr>
<tr>
<td><strong>Diffusion And Osmosis</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walsh</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Junior Microbiology

#### First Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashleigh West</td>
<td>8th</td>
<td>Conifer</td>
</tr>
<tr>
<td><strong>The Use Of UV Light To Sterilize Leafy Vegetables As A Means Of Improving Food Safety</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Jefferson Middle School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Second Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sara Volz</td>
<td>6th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>What Common Substances Best Kill Bacteria On The Skin?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Middle School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Third Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tucker Carver</td>
<td>7th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Bad To The Bowl! How Clean Is Your Drinking Water?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merino Jr/Sr High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Honorable Mention

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stephen O'Connor-Seville</td>
<td>7th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Ethanol From Dead Wood</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dolores Middle School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Team Nomination

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hanna Pelican</td>
<td>8th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td>Forre Zook</td>
<td>8th</td>
<td></td>
</tr>
<tr>
<td><strong>Not So N’Ice</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Middle School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Senior Microbiology

#### First Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel Joos</td>
<td>10th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>The Effects OF Essential Oils On Microsporum Canus Distortum</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fleming High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Second Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lindsey Rugh</td>
<td>10th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Fire On The Mountain Phase II</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotchkiss High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Third Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anika Petach</td>
<td>10th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Tracking And Preventing The Ophiostoma Fungus Of The Mountain Pine Bark Beetle</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairview High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Honorable Mention

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarah Boyle</td>
<td>10th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>The Effects Of L-glutathione And Ampicillin On The Gram-Negative Bacteria: Escherichia coli</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durango High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Senior Physics

#### First Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atticus Bergman</td>
<td>11th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>That Flocking Convection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairview High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Second Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vicky Li</td>
<td>11th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Grating-Stabilized Diode Lasers For Cooling Sr-87 Atoms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairview High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Third Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matt Wenger</td>
<td>12th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Brillouin Light Scattering</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doherty High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Honorable Mention

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelby Messer</td>
<td>9th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>High Voltage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genoa-Hugo School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Honorable Mention

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julia Buzan</td>
<td>11th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Quantifying The Quality Of Violins</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cherry Creek High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Junior Physics

#### First Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerry Betz</td>
<td>8th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Something’s Decaying In My Basement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Summit Middle School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Second Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rachel Washam</td>
<td>8th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Hardened Without Heat</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. John the Evangelist School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Third Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emily Sandner</td>
<td>6th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Oil: Fact Or Friction - Synthetic vs Petroleum</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durango School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Honorable Mention

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Savannah Lyle</td>
<td>6th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>On A Roll</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Middle School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Honorable Mention

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layne Barrett</td>
<td>7th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Bounce Your Way Down The Fairway</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Classical Academy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Team Nomination

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ashlan Hren</td>
<td>8th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td>Arianna Vierczhalek</td>
<td>8th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>What About the Brakes?!</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake County Middle School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Senior Physics

#### First Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julia Buzan</td>
<td>11th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Quantifying The Quality Of Violins</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cherry Creek High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Second Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shelby Messer</td>
<td>9th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>High Voltage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Genoa-Hugo School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Third Place

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leslie Hase</td>
<td>12th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>A Combat Against Cavity Causing Bacteria: Raisins As A Functional Food For Oral Health</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merino Jr/Sr High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Honorable Mention

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julia Buzan</td>
<td>11th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>Quantifying The Quality Of Violins</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cherry Creek High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Honorable Mention

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leslie Hase</td>
<td>12th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>A Combat Against Cavity Causing Bacteria: Raisins As A Functional Food For Oral Health</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merino Jr/Sr High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Honorable Mention

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leslie Hase</td>
<td>12th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>A Combat Against Cavity Causing Bacteria: Raisins As A Functional Food For Oral Health</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merino Jr/Sr High School</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Honorable Mention

<table>
<thead>
<tr>
<th>Name</th>
<th>Grade</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leslie Hase</td>
<td>12th</td>
<td>Colorado Springs</td>
</tr>
<tr>
<td><strong>A Combat Against Cavity Causing Bacteria: Raisins As A Functional Food For Oral Health</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merino Jr/Sr High School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior Plant Sciences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>First Place</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Andrew Theobald</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8th grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Windy Gardens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Middle School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorado Springs</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Second Place</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Justin Lewton</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7th grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Green Thumb Problem</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weld Central Junior High School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keenesburg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Third Place</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amber Vesely</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8th grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Does Your Garden Grow?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boltz Junior High School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fort Collins</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cade Daugherty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8th grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological Control Of Locoweed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Branson School</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Danielle Rinaldo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7th grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lotus Flower Has The Power! The Effect Of Nulumbo nucife On Fog Formation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merino Jr/Sr High School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Merino</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Billy Carruth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6th grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How Magnetism Effects Plant Growth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington Intermediate School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walsenburg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hannah Ekblad</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8th grade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Effect Of Recycled Newspaper On Pea Germination In A Heavy Clay Soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blevins Junior High School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fort Collins</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Senior Plant Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Place</strong></td>
</tr>
<tr>
<td>Kaitlyn Lingus</td>
</tr>
<tr>
<td>11th grade</td>
</tr>
<tr>
<td>One &quot;Mite&quot;y Mission: Biological Compensation Suppression Of Convulvulus arvensis Implementing Host-Specific Aceria matherbae . . . Phase III</td>
</tr>
<tr>
<td>Branson School</td>
</tr>
<tr>
<td><strong>Second Place</strong></td>
</tr>
<tr>
<td>Michaela Kaiser</td>
</tr>
<tr>
<td>12th grade</td>
</tr>
<tr>
<td>Peace Of Mind Potential For Current Season Spread In Colorado's Post Harvest Test</td>
</tr>
<tr>
<td>Sargent Jr/Sr High School</td>
</tr>
<tr>
<td>Monte Vista</td>
</tr>
<tr>
<td><strong>Third Place</strong></td>
</tr>
<tr>
<td>Erin Neumann</td>
</tr>
<tr>
<td>12th grade</td>
</tr>
<tr>
<td>Water On Demand: The Effects Of Soil Additives On Plant Growth And Germination</td>
</tr>
<tr>
<td>Wray High School</td>
</tr>
<tr>
<td>Wray</td>
</tr>
<tr>
<td><strong>Honorable Mention</strong></td>
</tr>
<tr>
<td>Gabriel Sachtier-Smith</td>
</tr>
<tr>
<td>12th grade</td>
</tr>
<tr>
<td>Hybridization Of Edible Diploid Eumusa Varieties And Wild Rhodochlamys Musa Species</td>
</tr>
<tr>
<td>Nederland Jr/Sr High School</td>
</tr>
<tr>
<td>Nederland</td>
</tr>
</tbody>
</table>
2007 Colorado Science and Engineering Fair
Special Awards Press Release

Appendix 2

Military

United States Air Force

Graham Robinson 8th grade
Graham Robinson 8th grade
certificate, padfolio organizer, USB flash drive, PDA, pen & pencil set
Cortez Middle School Cortez
Keeping Planes From Crashing!
Dillon Rose 7th grade
certificate, padfolio organizer, USB flash drive, PDA, pen & pencil set
Springfield Jr/Sr High School Springfield
Go Fly A Brick
Mandi Loucks 12th grade
certificate, padfolio organizer, USB flash drive, PDA, pen & pencil set
Grand Junction High School Grand Junction
Should Hybrids Fly?
Cole Bostrom 11th grade
certificate, padfolio organizer, USB flash drive, PDA, pen & pencil set
Brush High School Brush
Design And Construction Of A Micro Air Vehicle

United States Army

John Kwon 9th grade
certificate, silver medallion, $100 savings bond
Pine Creek High School Colorado Springs
Exploration Through The "Monsters" Of The Universe
Darci Dobson 12th grade
certificate, $50 savings bond
Monte Vista High School Monte Vista
Looking For Patterns Of Deuterium In The Local Galactic Disk
Daniel Smith 11th grade
certificate, $50 savings bond
Herzl Rocky Mountain Hebrew Denver
Reading Fingers: A System For Automatic Guitar Composition
Kaitlyn Lingus 11th grade
certificate, $50 savings bond
Branson School Branson
One "Mite"y Mission: Biological Compensation Suppression Of Convolvulus arvensis Implementing Host-Specific Aceria malherbae. . . Phase III
Ian Springer 12th grade
certificate, $50 savings bond
Lamar High School Lamar
Inside The Matrix: Solving Sudoku Puzzles Using Visual Basic

United States Navy & Marine Corps

Tim Schneider 11th grade
certificate, $75 gift certificates, medallion
Durango High School Durango
Photonics

Organizational

Air & Waste Management Association
Rocky Mountain States Section

Hannah Carrese 8th grade
North Middle School Colorado Springs
Hg - The Lethal Element: Emissions From A Coal-Fired Power Plant
Evan Duggan 12th grade
Cherry Creek High School Greenwood Village
Removal Of Targeted Organic Compounds From Municipal Waste Water

Ian Donaldson 10th grade
Broomfield High School Broomfield
Dynamic Axial Deformation Trends Of High-Strength Metal Tube Core Automotive Crush Zones
Daniel Armstrong 12th grade
Monte Vista High School Monte Vista
Designing A Digital Hearing Aid Program
Julia Leonard 11th grade
Palmer High School Colorado Springs
From Plague To Bird Flu: The Media's Influence In Mass Hysteria
Katie Mussell 12th grade
Amanda Stickley 12th grade
Brush High School Brush
Shift Code Encryption
Russell Tappy 7th grade
Merino Jr/Sr High School Merino
Performance Enhancers, Are They In You? The Effect Of Performance Enhancers On G. portentosa
Alexandra Proietti 8th grade
certification, medallion
Holy Family Catholic School Grand Junction
Fuel Of The Future, Toasty With Tamarisk
Addison Kramer 8th grade
certification, medallion
Cherry Creek Challenge School Denver
Ecologically Friendly Roofing
Charles Bergren 7th grade
certification, medallion
Southern Hills Middle School Boulder
AM Loop Antenna Design

- 20 -
**American Association of University Women**  
Brooke Grissom 8th grade  
$100  
Fowler Junior High School Fowler  
*Soil Erosion: A Growing Problem*

**American Chemical Society**  
**Colorado Local Section**  
Austin Traphagan 8th grade  
certificate, $100  
Yuma Middle School Yuma  
*Smile--It's About Time*  
Vicky Li 11th grade  
certificate, $100  
Fairview High School Boulder  
*Grating-Stabilized Diode Lasers For Cooling Sr-87 Atoms*

**American Institute of Chemical Engineers**  
**Rocky Mountain Section**  
Katelyn Yowell 8th grade  
$75  
Genoa-Hugo School Hugo  
*Chlorophyll Chromatography*  
Nathan Weeks 7th grade  
$100  
The Classical Academy Colorado Springs  
*Sound Barrier Designs*  
Bailey Leppek 11th grade  
Derek Kramer 11th grade  
$75  
Cherry Creek High School Greenwood Village  
*Ethanol Synthesis From Different Biodegradable Household Waste Products*  
Eric Keeling 12th grade  
$100  
La Veta Jr/Sr High School La Veta  
*A Study On Rhizofiltration With Helianthus annuus And Its Effect On Coal Bed Methane Produced Water*  

**American Statistical Association**  
**Colorado/Wyoming Chapter**  
Jack Donelson 8th grade  
$75, acknowledgement at chapter spring meeting and on chapter web site  
Mackintosh Academy Littleton  
*Predicting Success In Basketball By Statistical Analysis*  
Soren Frykholm 8th grade  
$75, engraved Ipod Shuffle, acknowledgement at chapter spring meeting and on chapter web site  
Summit Middle School Boulder  
*The Nose Knows: A Better Way To Breathe?*  
Fletcher Gorman 11th grade  
$75, acknowledgement at chapter spring meeting and on chapter web site  
Fleming High School Fleming  
*Tunes: The New Brain Food*

**American Vacuum Society**  
**Rocky Mountain Chapter**  
Kerry Betz 8th grade  
$50, matching award to teacher/sponsor  
Summit Middle School Boulder  
*Something's Decaying In My Basement*  
Hannah Carrese 8th grade  
$100, matching award to teacher/sponsor  
North Middle School Colorado Springs  
*Hg - The Lethal Element: Emissions From A Coal-Fired Power Plant*  
Gwyneth Glissmann 10th grade  
$50, matching award to teacher/sponsor  
Peak to Peak Charter School Lafayette  
*Mitigating Global Warming By Utilizing Albedo Geoengineering*  
Vicky Li 11th grade  
$100, matching award to teacher/sponsor  
Fairview High School Boulder  
*Grating-Stabilized Diode Lasers For Cooling Sr-87 Atoms*

**Armbruster Associates**  
**Charles Armbruster Memorial Award**  
Elizabeth Napier 6th grade  
$100  
Escalante Middle School Durango  
*Flying High*

**ASM International**  
Ambrose Soehn 8th grade  
$50  
Summit Middle School Boulder  
*Natural vs. Synthetic: Polymers In Today's World*  
David Wu 10th grade  
$75  
Cherry Creek High School Greenwood Village  
*Analyzing Hydrogen Storage In A Mg-Al-Zn Alloy*

**Association for Women Geoscientists**  
**Laramide Chapter**  
Samantha Ensz 8th grade  
"Achievement Medal", $50, mineral specimen  
Hi-Plains Jr/Sr High School Seibert  
*Successful Soil*  
Saraiya Ruano 11th grade  
"Achievement Medal", $50, mineral specimen  
Coronado High School Colorado Springs  
*The Road Less Traveled*
Appendix 2

Cherry Creek Basin Water Quality Authority

Mariah Hanley 12th grade
Cherry Creek High School Greenwood Village
Correlations Between Snow Contamination And The Air Quality Index

Colorado Association of Meat Processors

Sarah Boyle 10th grade
certificate, $60
Durango High School Durango
The Effects Of L-glutathione And Ampicillin On The Gram-Negative Bacteria: Escherichia coli

Colorado Association of Science Teachers

Jeffrey Hibbert 8th grade
certificate, $50
Lone Star School Otis
Wastewater Watts: A Study Of Microbial Fuel Cells
David Michel 7th grade
certificate, $50
Merino Jr/Sr High School Merino
Aloe Vera Myth Or Medicine? The Effect Of Aloe Vera On M. sexta And G. portentosa
Erin Neumann 12th grade
certificate, $50
Wray High School Wray
Water On Demand: The Effects Of Soil Additives On Plant Growth And Germination
Rebecca Siegel 10th grade
certificate, $50
Palmer High School Colorado Springs
Thinking Without Thinking: A Study of Subconscious Biases Towards the Middle East

Gerald Gromko Award

Daniel Armstrong 12th grade
$150, plaque
Monte Vista High School Monte Vista
Designing A Digital Hearing Aid Program

Colorado Biology Teacher's Association

Erik Schnaderbeck 8th grade
certificate, $75
Sargent Jr/Sr High School Monte Vista
What Water Characteristics Affect Aquatic Invertebrates At Tailwater Fisheries
Ashley Pollock 12th grade
certificate, $75
Wiggins Jr/Sr High School Wiggins
Tissue Distribution And Mitochondrial Function Of The Parkinson's Disease Related Protein DJ-1

Colorado Dental Association

Austin Traphagan 8th grade
plaque, $25, invitation to present projects at the Colorado Dental Association's Annual Meeting
Yuma Middle School Yuma
Smile--It's About Time

Colorado Division of Wildlife

Vincent Burkhardt 7th grade
certificate, DOW Book or video
Stanley British Primary School Denver
Do Car Associated Chemicals Affect Daphnia
Erik Schnaderbeck 8th grade
$50, packet of Colorado Division of Wildlife products
Sargent Jr/Sr High School Monte Vista
What Water Characteristics Affect Aquatic Invertebrates At Tailwater Fisheries
Saraiya Ruano 11th grade
Certificate, DOW Book or video
Coronado High School Colorado Springs
The Road Less Traveled
Alex Schnaderbeck 11th grade
$50, packet of Colorado Division of Wildlife products
Sargent Jr/Sr High School Monte Vista
Shape Up: The Relationship Between Trout Habitat And Differently Shaped Rocks.

Colorado Environmental Health Association

Hannah Carrese 8th grade
certificate, $50
North Middle School Colorado Springs
Hg - The Lethal Element: Emissions From A Coal-Fired Power Plant
Mariah Hanley 12th grade
certificate, $100, invitation to exhibit at the CEHA Annual Educational Conference ($400 value)
Cherry Creek High School Greenwood Village
Correlations Between Snow Contamination And The Air Quality Index

Colorado Foundation for Agriculture

Agriculture in the Classroom Award

Nakayla Lestina 7th grade
certificate, $50
Dove Creek Middle School Dove Creek
Biological Control Of Canada Thistle - Analyzing Three Natural Insect Enemies
Lorne Muir II 7th grade
certificate, $50
The Classical Academy Colorado Springs
Hydrophobic Soil Rehabilitation
Appendix 2

Colorado Science and Engineering Fair

Pioneers of Science

Animal Sciences - George L. C. Cuvier

Avery DiUbaldio
8th grade
certificate, $30
Cherry Creek Challenge School Denver
Studies Of The Pheromonal Capabilities Of The Western Har-
vester Ant

Behavioral & Social Sciences - Abraham Maslow

Majed Aldhamari
8th grade
certificate, $30
Blevins Junior High School Fort Collins
Chromatic Adaptation

Behavioral & Social Sciences - Margaret Mead

Cody Hervert
8th grade
certificate, $30
Eagle County Charter Academy Edwards
Intoxicated - Intechnicated "What's The Difference"

Chemistry - Alfred Bernhard Nobel

Katie Romano
6th grade
certificate, $30
Harrison Middle School Canon City
The Day After . . . A Day At The Beach

Chemistry - Marie Curie

Jorge Arredondo
8th grade
certificate, $30
Cheyenne Wells Middle School Cheyenne Wells
Chlorinated Water Vs. Carbon Filters

Earth & Space Sciences - Alfred Lothar Wegner

Dylan Cleveland
6th grade
certificate, $30
Canon City Middle School Canon City
Does The Earth Move Under Your Feet?

Energy & Transportation - James Prescott Joule

Taylor Bond
6th grade
certificate, $30
St. Peter’s Lutheran School Monte Vista
Get Your Head Out Of The Cloud Point

Energy & Transportation - Sir William Grove

Isaiah Branch-Boyle
8th grade
certificate, $30
St. Columba School Durango
Journey To A Hydrogen Future

Engineering - James Buchanan Eads

Jana Elrick
7th grade
certificate, $30
Flagler Public School Flagler
Whether It Weathers

Colorado Geological Survey & Division of Reclamation Mining and Safety

Dylan Cleveland
6th grade
certificate
Canon City Middle School
Does The Earth Move Under Your Feet?

Tawney Bleak
8th grade
$150
Otis Jr/Sr High School
S.O.S. Save Our Soil

Bailey Jones
12th grade
certificate
Canon City High School
Which Rock, What Time, Which Fossil Can You Find?

Adam Goss
11th grade
$150
Brush High School
Computer Simulation Of Erosion Patterns

Colorado Medical Society

Tanner Zimmerman
6th grade
$100
Riverside Middle School New Castle
Mercy MRSA

Nicholas Greos
12th grade
$100
Cherry Creek High School Greenwood Village
Evaluation Of Concussions In Teen Sports

Colorado Mineral Society

Bailey Jones
12th grade
$40, 2 mineral specimens, book
Canon City High School
Which Rock, What Time, Which Fossil Can You Find?

Colorado Mycological Society

Anika Petach
10th grade
$50, Colorado Mushrooms book
Fairview High School Boulder
Tracking And Preventing The Ophiostoma Fungus Of The Mountain Pine Bark Beetle

Colorado River Watch

Eric Keeling
12th grade
$50, certificate
La Veta Jr/Sr High School
A Study On Rhizofiltration With Helianthus annuus And Its Ef-
fect On Coal Bed Methane Produced Water
Appendix 2

Engineering - Nicola Tesla
Noah Jordan 6th grade
Windsor Charter Academy Windsor

A Sticky Situation
Environmental Sciences - Rachel Louise Carson
Alyssa Loveland 7th grade
Lamar Middle School Lamar

Did Lamar Receive Any Acid Snow?

Mathematics & Computer Sciences - Charles Babbage
Joshua Shettler 8th grade
Holy Family Catholic School Grand Junction

A Combat Against Cavity Causing Bacteria: Raisins As A Functional Food For Oral Health

Medicine & Health - Albert Schweitzer
Laci Pennington 7th grade
Lamar Middle School Lamar

Does Heat Affect Your Hair Strength?

Medicine & Health - Hippocrates
Kally Williams 6th grade
Cortez Middle School Cortez

How Do Different Beverages Effect Human Teeth?

Microbiology - Jonas Edward Salk
Brenna Christensen 6th grade
Miller Middle School Durango

Jammin’ Germs

Physics - Albert Einstein
Phillip Foy 8th grade
Otis Jr/Sr High School Otis

Amazing Ice

Physics - Sir Isaac Newton
Sami Hourich 6th grade
Parkview Elementary School Lamar

Electromagnets And Iron Bolts

Plant Sciences – Luther Burbank
Alexa Major 7th grade
Fowler Junior High School Fowler

Good Salt, Bad Salt - Which Is Which?

Ralph Desch Memorial Technical Writing Award
John Huffman 12th grade
Eagle Valley High School Gypsum

Response Of Euglena gracilis To Magnesium Chloride Exposure

Poster Art Contest
Marlee Canada 8th grade
Home Schooled Mosca

certificate, trophy, $100

Student Choice Award
Abbi Helfer 7th grade
North Middle School Colorado Springs

Pan-Demonium

Nia Quadracci 6th grade
Bromley East Charter School Brighton

Icy Albedo

Austin Nichols 11th grade
Brush High School Brush

The Controlled Growth Of Penitente Structures

Bailey Jones 12th grade
Canon City High School Canon City

Which Rock, What Time, Which Fossil Can You Find?

Colorado Scientific Society
Hannah Carrese 8th grade
North Middle School Colorado Springs

Hg - The Lethal Element: Emissions From A Coal-Fired Power Plant

Nia Quadracci 6th grade
$75

Bromley East Charter School

Icy Albedo

Austin Nichols 11th grade
$75

Brush High School

The Controlled Growth Of Penitente Structures

Bailey Jones 12th grade
$100

Canon City High School

Which Rock, What Time, Which Fossil Can You Find?

Colorado Veterinary Medical Association (CVMA) & CVMA Auxiliary & Auxiliary to the AVMA
Cade Daugherty 8th grade
Branson School Branson

Biological Control Of Locoweed

Katlin Hornig 10th grade
Sargent Jr/Sr High School Monte Vista

The Equine Emotional And Physical Behavior Connection

Colorado-Wyoming Society of American Foresters
Alexandra Proietti 8th grade
Holy Family Catholic School Grand Junction

Fuel Of The Future, Toasty With Tamarisk

$100 savings bond
Appendix 2

Dylan Proietti 10th grade $100 savings bond
Grand Junction High School Grand Junction From Eradication To Utilization: Cooking Tastily With Tamarisk

CSU, Department of Biochemistry & Molecular Biology
Ashley Pollock 12th grade certificate, $100
Wiggins Jr/Sr High School Wiggins Tissue Distribution And Mitochondrial Function Of The Parkinson's Disease Related Protein DJ-1

CSU, Department of Chemistry
Tessa Kester 7th grade
West Middle School Grand Junction Why Did My Hair Turn Green?
David Wu 10th grade certificate, $100
Cherry Creek High School Greenwood Village Analyzing Hydrogen Storage In A Mg-Al-Zn Alloy

CSU, Department of Horticulture & Landscape Architecture
Anna Rooney 8th grade $100
Sargent Jr/Sr High School Monte Vista How Sweet Is Your Potato?
Michaela Kaiser 12th grade $100
Sargent Jr/Sr High School Monte Vista Peace Of Mind Potential For Current Season Spread In Colorado's Post Harvest Test
K C Zinn 7th grade $100
Sargent Jr/Sr High School Monte Vista Counting On Canela
Gabriel Sachter-Smith 12th grade
Nederland Jr/Sr High School Nederland Hybridization Of Edible Diploid Eumusa Varieties And Wild Rhodochlamys Musa Species
Marina Yamasaki 8th grade microprocessor kit and digital multimeter (value $150)
Summit Middle School Boulder How Efficient Are Your Light Bulbs?
Charles Bergren 7th grade microprocessor kit and digital multimeter (value $150)
Southern Hills Middle School Boulder AM Loop Antenna Design

Eppler Family

Fort Collins Conservation District
Alexandra Proietti 8th grade $50, plaque
Holy Family Catholic School Grand Junction Fuel Of The Future, Toasty With Tamarisk
Dylan Proietti 10th grade $50, plaque
Grand Junction High School Grand Junction From Eradication To Utilization: Cooking Tastily With Tamarisk

Human Factors & Ergonomics Society Rocky Mountain Chapter
Aiden Acquisto 6th grade
Jaimie Smith 6th grade
Stanley British Primary School Denver Reaction With Distraction

Institute of Electrical and Electronics Engineers
Austin Cerny 8th grade $100
Eagle County Charter Academy Edwards Slow Computer Got You Down?
Daniel Smith 11th grade $150
Herzl Rocky Mountain Hebrew Denver Reading Fingers: A System For Automatic Guitar Composition
Maxwell Wheeler 12th grade
Nederland Jr/Sr High School Nederland A New Frequency For Help! Exploring Propagation Characteristics Of The 500 kHz Frequency
Tim Schneider 11th grade $100
Durango High School Durango Photonics

Intel Foundation Intel Foundation Computer Award
Ambrose Soehn 8th grade certificate, laptop computer (to be mailed later)
Summit Middle School Boulder Natural vs. Synthetic: Polymers In Today's World
Chelsea Oden 11th grade certificate, laptop computer (to be mailed later)
Monte Vista High School Monte Vista A Wrinkle In Prime: An Investigation Of Prime Properties In A Four-Dimensional Sieve Of Eratosthenes

Lockheed Martin
Graham Robinson 8th grade
$50 US savings bond
Cortez Middle School Cortez Keeping Planes From Crashing!
Appendix 2

Darci Dobson 12th grade
Monte Vista High School Monte Vista
Looking For Patterns Of Deuterium In The Local Galactic Disk

Teacher of the Year Award
Haydee Phelps
$3,000 grant to support student research facilitated by them and/or to fund programs in their district that would best enhance instruction in the sciences and engineering
Summit Middle School Boulder

MAST Hotline
Lauren Adlhoch 7th grade
$50
St. John the Evangelist School Loveland
Can I Measure The Height Of The Moon's Mountains And The Depths Of Its Craters?
Daniel Joos 10th grade
$50
Fleming High School Fleming
The Effects OF Essential Oils On Microspourm Canus Distort- tum

MWH Americas, Inc.
Addison Kramer 8th grade
$100, plaque
Cherry Creek Challenge School Denver
Ecologically Friendly Roofing
Gwyneth Glissmann 10th grade
$200, plaque
Peak to Peak Charter School Lafayette
Mitigating Global Warming By Utilizing Albedo Geoengineering

National Geophysical Data Center
Hannah Carrese 8th grade
certificate or recognition, plaque, $100 savings bond
North Middle School Colorado Springs
Hg - The Lethal Element: Emissions From A Coal-Fired Power Plant

National Renewable Energy Laboratory
Christy Farnsworth 9th grade
$100
Paonia Jr/Sr High School Paonia
Hydrogen A New Twist

Optical Society of America Rocky Mountain Section
Patrick Halde 8th grade
certificate, 1-year subscription to Discover magazine
Cheyenne Wells Middle School Cheyenne Wells
Changing Refractions Reaction
Tim Schneider 11th grade
certificate, 1-year subscription to Discover magazine
Durango High School Durango
Photonics

Rio Tinto Minerals, Inc.
Jayce Breig 8th grade
$50
West Jefferson Middle School Conifer
Which Insulation Material Is Better?
Hannah Ekblad 8th grade
$100
Blevins Junior High School Fort Collins
The Effect Of Recycled Newspaper On Pea Germination In A Heavy Clay Soil
Miranda Parmer 9th grade
$50
Genoa-Hugo School Hugo
The Flammability Of Fabrics For Home Safety
Kelsey Burns 10th grade
$100
Arriba-Flagler School Flagler
Tumble On In! Exploring The Potential Of Russian Thistle As A Source Of Insulation

Rocky Mountain Association of Geologists
Rachel Beverlin 7th grade
cash award
Dolores Middle School Dolores
Geyser Spring: Characteristics Of Colorado's Only Geyser
Darci Dobson 12th grade
cash award
Monte Vista High School Monte Vista
Looking For Patterns Of Deuterium In The Local Galactic Disk
Patrick Martin 12th grade
cash award
Canon City High School Canon City
Environmental Repercussions In Fremont County
Grant Slinger 10th grade
cash award
Stratton High School Stratton
Effects Of Soil Type On Groundwater Contamination

Rocky Mountain Goats Foundation
Tawney Bleak 8th grade
$150
Otis Jr/Sr High School Otis
S.O.S. Save Our Soil
Anika Petach 10th grade
$150
Fairview High School Boulder
Tracking And Preventing The Ophiostoma Fungus Of The Mountain Pine Bark Beetle

Rocky Mountain Water Environment Association
Taylor Fogg 7th grade
$50
The Classical Academy Colorado Springs
Poop, Etc.
## Appendix 2

<table>
<thead>
<tr>
<th>Award Winner</th>
<th>Grade</th>
<th>School</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dana Louie</td>
<td>8th</td>
<td>North Middle School</td>
<td>Understanding Eutrophication</td>
</tr>
<tr>
<td>Grant Slinger</td>
<td>10th</td>
<td>Stratton High School</td>
<td>Effects Of Soil Type On Groundwater Contamination</td>
</tr>
<tr>
<td>Eric Keeling</td>
<td>12th</td>
<td>La Veta Jr/Sr High School</td>
<td>A Study On Rhizofiltration With Helianthus annuus And Its Effect On Coal Bed Methane Produced Water</td>
</tr>
<tr>
<td>Reno Tsosie</td>
<td>8th</td>
<td>Cortez Middle School</td>
<td>Cultural Relevance In The Navajo Context</td>
</tr>
<tr>
<td>Dani Gonzales</td>
<td>11th</td>
<td>Grand Valley High School</td>
<td>The Effect An Organic Diet Has On Health Related Quality Of Life</td>
</tr>
<tr>
<td>Kerry Betz</td>
<td>8th</td>
<td>Summit Middle School</td>
<td>Something's Decaying In My Basement</td>
</tr>
<tr>
<td>Rachel Washam</td>
<td>8th</td>
<td>St. John the Evangelist School</td>
<td>Hardened Without Heat</td>
</tr>
<tr>
<td>Eric Keeling</td>
<td>12th</td>
<td>La Veta Jr/Sr High School</td>
<td>A Study On Rhizofiltration With Helianthus annuus And Its Effect On Coal Bed Methane Produced Water</td>
</tr>
<tr>
<td>Patrick Martin</td>
<td>12th</td>
<td>Canon City High School</td>
<td>Environmental Repercussions In Fremont County</td>
</tr>
<tr>
<td>Matt Wenger</td>
<td>12th</td>
<td>Doherty High School</td>
<td>Cooling Results: The Effect Of Temperature On The Warp Of Plastic In Manufacturing</td>
</tr>
<tr>
<td>Mandi Loucks</td>
<td>12th</td>
<td>Durango High School</td>
<td>Should Hybrids Fly?</td>
</tr>
</tbody>
</table>

### Society of Women Engineers

#### Rocky Mountain Section

<table>
<thead>
<tr>
<th>Award Winner</th>
<th>Grade</th>
<th>School</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emily Sandner</td>
<td>6th</td>
<td>St. Columba School</td>
<td>Oil: Fact Or Friction - Synthetic vs Petroleum</td>
</tr>
<tr>
<td>Ashlan Hren</td>
<td>8th</td>
<td>Stratton High School</td>
<td>What About the Brakes??</td>
</tr>
<tr>
<td>Arianna Vierczhalek</td>
<td>8th grade</td>
<td>Grand Junction High School</td>
<td>Soil Erosion: A Growing Problem</td>
</tr>
<tr>
<td>Lake County Middle School</td>
<td>Leadville</td>
<td>Rocky Mountain Section</td>
<td></td>
</tr>
<tr>
<td>Vicky Li</td>
<td>11th</td>
<td>Boulder</td>
<td>Grating-Stabilized Diode Lasers For Cooling Sr-87 Atoms</td>
</tr>
<tr>
<td>Mandi Loucks</td>
<td>12th</td>
<td>Grand Junction High School</td>
<td>Should Hybrids Fly?</td>
</tr>
</tbody>
</table>

### Soil and Water Conservation Society

#### Colorado Chapter

<table>
<thead>
<tr>
<th>Award Winner</th>
<th>Grade</th>
<th>School</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hannah Ekblad</td>
<td>8th</td>
<td>Blevins Junior High School</td>
<td>The Effect Of Recycled Newspaper On Pea Germination In A Heavy Clay Soil</td>
</tr>
<tr>
<td>Brooke Grissom</td>
<td>8th grade</td>
<td>Fowler Junior High School</td>
<td>Soil Erosion: A Growing Problem</td>
</tr>
<tr>
<td>Grant Slinger</td>
<td>10th</td>
<td>Stratton High School</td>
<td>Effects Of Soil Type On Groundwater Contamination</td>
</tr>
<tr>
<td>Eric Keeling</td>
<td>12th</td>
<td>La Veta Jr/Sr High School</td>
<td>A Study On Rhizofiltration With Helianthus annuus And Its Effect On Coal Bed Methane Produced Water</td>
</tr>
</tbody>
</table>

### The International Society for Optical Engineering

<table>
<thead>
<tr>
<th>Award Winner</th>
<th>Grade</th>
<th>School</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lauren Adlhoch</td>
<td>7th</td>
<td>St. John the Evangelist School</td>
<td>Can I Measure The Height Of The Moon's Mountains And The Depths Of Its Craters?</td>
</tr>
<tr>
<td>Matt Wenger</td>
<td>12th</td>
<td>Doherty High School</td>
<td>Brillouin Light Scattering</td>
</tr>
<tr>
<td>Tim Schneider</td>
<td>11th</td>
<td>Durango High School</td>
<td>Photonics</td>
</tr>
</tbody>
</table>

- 27 -
Appendix 2

United States Department of Commerce
Stephen Wilfong 12th grade
opportunity for summer employment with Department of Commerce with possibility for future continuing employment
Moffat High School Moffat
Return Of The Deadly Snow: A Study Of Avalanche Risk Based On Layers And Types Of Snow
Eric Keeling 12th grade
alternate for an opportunity for summer employment with Department of Commerce with possibility for future continuing employment
La Veta Jr/Sr High School La Veta
A Study On Rhizofiltration With Helianthus annuus And Its Effect On Coal Bed Methane Produced Water

United States Geological Survey
Rachel Beverlin 7th grade
reference book, mineral sample
Dolores Middle School Dolores
Geyser Spring: Characteristics Of Colorado's Only Geyser
Alex Schnaderbeck 11th grade
reference book, mineral sample
Sargent Jr/Sr High School Monte Vista
Shape Up: The Relationship Between Trout Habitat And Differently Shaped Rocks.

University of Colorado Health Sciences Center
Medical Scientist Training Program
Ashley Pollock 12th grade
$50
Wiggins Jr/Sr High School Wiggins
Tissue Distribution And Mitochondrial Function Of The Parkinson's Disease Related Protein DJ-1
Antonia Lira 9th grade
$50
Lamar High School Lamar
Does Sun Guard Detergent Wash An Invisible Shield Into Clothing To Reduce Ultraviolet Light?

Zonta Club of Boulder County
Amelia Earhart Award
Elizabeth Napier 6th grade
$100
Escalante Middle School Durango
Flying High

Scholarships
Adams State College
Katlin Hornig 10th grade
scholarships valued as the equivalent to one-year resident tuition and fees
Sargent Jr/Sr High School Monte Vista
The Equine Emotional And Physical Behavior Connection

Dustin Brady 11th grade
Wray High School Wray
Beats Of The Brain
Sarah Cummings 10th grade
scholarships valued as the equivalent to one-year resident tuition and fees
Brush High School Brush
Leaching Of Metals From Cookware By Acidic
Bailey Jones 12th grade
scholarships valued as the equivalent to one-year resident tuition and fees
Canon City High School Canon City
Which Rock, What Time, Which Fossil Can You Find?
Seth Brouwer 10th grade
scholarships valued as the equivalent to one-year resident tuition and fees
Arriba-Flagler School Flagler
What'S The Coolest Oil
Keith Vieweg 12th grade
scholarships valued as the equivalent to one-year resident tuition and fees
Monte Vista On Line Academy Monte Vista
Cooling Results: The Effect Of Temperature On The Warp Of Plastic In Manufacturing
Alex Schnaderbeck 11th grade
scholarships valued as the equivalent to one-year resident tuition and fees
Sargent Jr/Sr High School Monte Vista
Shape Up: The Relationship Between Trout Habitat And Differently Shaped Rocks.
Adam Goss 11th grade
scholarships valued as the equivalent to one-year resident tuition and fees
Brush High School Brush
Computer Simulation Of Erosion Patterns
Jennifer Manfredo 9th grade
scholarships valued as the equivalent to one-year resident tuition and fees
Canon City High School Canon City
Auditory Processing: Can You Interpret It Now?
Sarah Gunkel 10th grade
scholarships valued as the equivalent to one-year resident tuition and fees
Springfield Jr/Sr High School Springfield
Bacterial Party
Tucker Dunivan 11th grade
scholarships valued as the equivalent to one-year resident tuition and fees
Walsh Jr/Sr High School Walsh
Stress Test, Will Stress Cause Whiskers?
Haydn Christensen 10th grade
Monte Vista High School Monte Vista
*The Effects Of Disease And Damage On Malt Friability*

**Colorado School of Mines**

Austin Nichols 11th grade
50% resident tuition, four-year scholarship
Brush High School Brush
*The Controlled Growth Of Penitente Structures*

Alex Schnaderbeck 11th grade
50% resident tuition, four-year scholarship
Sargent Jr/Sr High School Monte Vista
*Shape Up: The Relationship Between Trout Habitat And Differently Shaped Rocks.*

Daniel Smith 11th grade
50% resident tuition, four-year scholarship
Herzl Rocky Mountain Hebrew Denver
*Reading Fingers: A System For Automatic Guitar Composition*

Chelsea Oden 11th grade
50% resident tuition, four-year scholarship
Monte Vista High School Monte Vista
*A Wrinkle In Prime: An Investigation Of Prime Properties In A Four-Dimensional Sieve Of Eratosthenes*

Atticus Bergman 11th grade
50% resident tuition, four-year scholarship
Fairview High School Boulder
*That Flocking Convection*

Andrew Flynn 11th grade
Wil Cocke 11th grade
50% resident tuition, four-year scholarship
Palmer High School Colorado Springs
*Determining The Point Of Entropy: Building A Lorenzian Waterwheel*

**Intel Foundation**

*Ryan Patterson Scholarship*

Amanda Rock 12th grade
Wray High School Wray
*Biofuels: Oily Alternatives?*

**Syracuse Pulp and Paper Foundation**

Keith Vieweg 12th grade
Monte Vista On Line Academy Monte Vista
*Cooling Results: The Effect Of Temperature On The Warp Of Plastic In Manufacturing*

**University of Colorado - Boulder**

*College of Engineering and Applied Science Scholarships*

Bailey Leppek 11th grade
Derek Kramer 11th grade
$1,500/year scholarship for four years
Cherry Creek High School Greenwood Village
*Ethanol Synthesis From Different Biodegradable Household Waste Products*

Maxwell Wheeler 12th grade
$2,500/year scholarship for four years
Nederland Jr/Sr High School Nederland
*A New Frequency For Help! Exploring Propagation Characteristics Of The 500 kHz Frequency*

Chelsea Oden 11th grade
$4,000/year scholarship for four years
Monte Vista High School Monte Vista
*A Wrinkle In Prime: An Investigation Of Prime Properties In A Four-Dimensional Sieve Of Eratosthenes*

**Science Service**

*American Meteorological Society*

Mariah Hanley 12th grade
Certificate
Cherry Creek High School Greenwood Village
*Correlations Between Snow Contamination And The Air Quality Index*

Austin Nichols 11th grade
Certificate
Brush High School Brush
*The Controlled Growth Of Penitente Structures*

Stephen Wilfong 12th grade
Certificate
Moffat High School Moffat
*Return Of The Deadly Snow: A Study Of Avalanche Risk Based On Layers And Types Of Snow*

**American Psychological Association**

Rachel Wynn 11th grade
Certificate
Coronado High School Colorado Springs
*Social Cognition And Working Memory*

**Discovery Channel**

*Discovery Channel Young Scientist Challenge*

Erik Schnaderbeck 8th grade
Certificate, lapel pin, nomination to enter the DCYSC national competition
Sargent Jr/Sr High School Monte Vista
*What Water Characteristics Affect Aquatic Invertebrates At Tailwater Fisheries*

Diane Schulze 7th grade
Certificate, lapel pin, nomination to enter the DCYSC national competition
Cherry Creek Challenge School Denver
*Human Embarrassment*
Appendix 2

Ambrose Soehn 8th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Summit Middle School Boulder

Natural vs. Synthetic: Polymers In Today's World

Colin Mummery 7th grade certificate, lapel pin, nomination to enter the DCYSC national competition
St. Columba School Durango

Ascent From The Deep

Alex Nickell 7th grade certificate, lapel pin, nomination to enter the DCYSC national competition
St. John the Evangelist School Loveland

Can A Shroud Increase The Electrical Output Of A Wind Turbine?

Nathan Weeks 7th grade certificate, lapel pin, nomination to enter the DCYSC national competition
The Classical Academy Colorado Springs

Sound Barrier Designs

Alexandra Proietti 8th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Holy Family Catholic School Grand Junction

Fuel Of The Future, Toasty With Tamarisk

Garrett Glissmann 7th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Peak to Peak Charter School Lafayette

Identifying Minutiae Within A Fingerprint

Alexandria Farnsworth 7th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Paonia Jr/Sr High School Paonia

Stop! Type 2 Diabetes In Adolescents

Ashleigh West 8th grade certificate, lapel pin, nomination to enter the DCYSC national competition
West Jefferson Middle School Conifer

The Use Of UV Light To Sterilize Leafy Vegetables As A Means Of Improving Food Safety

Kerry Betz 8th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Summit Middle School Boulder

Something's Decaying In My Basement

Andrew Theobald 8th grade certificate, lapel pin, nomination to enter the DCYSC national competition
North Middle School Colorado Springs

Windy Gardens

Nakayla Lestina 7th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Dove Creek Middle School Dove Creek

Biological Control Of Canada Thistle - Analyzing Three Natural Insect Enemies

Reno Tsosie 8th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Cortez Middle School Cortez

Cultural Relevance In The Navajo Context

Jordan Lestina 8th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Dove Creek Middle School Dove Creek

L-Ascorbic Acid Analyzing Foods By Titration Phase 2, Quantifying The Effects Of Heat & Cold On Vitamin C

Tawney Bleak 8th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Otis Jr/Sr High School Otis

S.O.S. Save Our Soil

Natashia Barker 8th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Haxtun Middle School Haxtun

Burn Or Not To Burn: That Is The Question

Charles Bergren 7th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Southern Hills Middle School Boulder

AM Loop Antenna Design

Lorne Muir II 7th grade certificate, lapel pin, nomination to enter the DCYSC national competition
The Classical Academy Colorado Springs

Hydrophobic Soil Rehabilitation

Rahul Shankar 7th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Mountain Ridge Middle School Colorado Springs

A Software Tool To Calculate Alignment Of Nucleotide Sequences To Classify The Cryptoprocta Ferox

Russell Tappy 7th grade certificate, lapel pin, nomination to enter the DCYSC national competition
Merino Jr/Sr High School Merino

Performance Enhancers, Are They In You? The Effect Of Performance Enhancers On G. portentosa

Sara Volz 6th grade certificate, lapel pin, nomination to enter the DCYSC national competition
North Middle School Colorado Springs

What Common Substances Best Kill Bacteria On The Skin?
Appendix 2

Rachel Washam 8th grade certificate, lapel pin, nomination to enter the DCYSCC national competition
St. John the Evangelist School Loveland

Hardened Without Heat

Justin Lewton 7th grade certificate, lapel pin, nomination to enter the DCYSCC national competition
Weld Central Junior High Keenesburg

The Green Thumb Problem

Herbert Hoover Presidential Library Association Herbert Hoover Young Engineer Award
Daniel Smith 11th grade certificate, medallion
Herzl Rocky Mountain Hebrew Denver
Reading Fingers: A System For Automatic Guitar Composition

Intel Corporation

Intel Excellence in Computer Science Award
Tommaso Buvoli 12th grade certificate, $200 (to be mailed in July)
Fairview High School Boulder
Machine Learning And Data Classification

Mu Alpha Theta

Chelsea Oden 11th grade certificate
Monte Vista High School Monte Vista
A Wrinkle In Prime: An Investigation Of Prime Properties In A Four-Dimensional Sieve Of Eratosthenes

National Society of Professional Engineers

Daniel Smith 11th grade certificate, lapel pin, one-year subscription to Engineering Times
Herzl Rocky Mountain Hebrew Denver
Reading Fingers: A System For Automatic Guitar Composition

Ricoh

Ricoh Sustainable Development Award 2007
Alex Nickell 7th grade certificate, entry into a drawing for a Ricoh digital camera St. John the Evangelist School Loveland
Can A Shroud Increase The Electrical Output Of A Wind Turbine?

Scientific American

Chelsea Oden 11th grade certificate, one-year subscription to Scientific American
Monte Vista High School Monte Vista
A Wrinkle In Prime: An Investigation Of Prime Properties In A Four-Dimensional Sieve Of Eratosthenes
Atticus Bergman 11th grade certificate, one-year subscription to Scientific American Fairview High School Boulder
That Flocking Convection

Daniel Smith 11th grade certificate, one-year subscription to Scientific American
Herzl Rocky Mountain Hebrew Denver
Reading Fingers: A System For Automatic Guitar Composition

Bailey Leppke 11th grade
Derek Kramer 11th grade
certificate, one-year subscription to Scientific American
Cherry Creek High School Greenwood Village
Ethanol Synthesis From Different Biodegradable Household Waste Products

Society for In Vitro Biology

Young Kim 11th grade certificate
Cherry Creek High School Greenwood Village
Chlorophyll As A Sunscreening Agent

United States Department of Commerce/NOAA

Taking the Pulse of the Planet Award
Gwyneth Glissmann 10th grade certificate, medallion
Peak to Peak Charter School Lafayette
Mitigating Global Warming By Utilizing Albedo Geoengineering

United States Department of Health & Human Services

US Public Health Service Challenge
Antonia Lira 9th grade certificate
Lamar High School Lamar
Does Sun Guard Detergent Wash An Invisible Shield Into Clothing To Reduce Ultraviolet Light?

United States Metric Association

David Wu 10th grade certificate
Cherry Creek High School Greenwood Village
Analyzing Hydrogen Storage In A Mg-Al-Zn Alloy

Water Environment Federation

Stockholm Junior Water Prize
Evan Duggan 12th grade Certificate, nomination for the SJWP state competition, mouse pad
Cherry Creek High School Greenwood Village
Removal Of Targeted Organic Compounds From Municipal Waste Water

Yale Science & Engineering Association

Atticus Bergman 11th grade certificate, pewter medallion (to be mailed in August)
Fairview High School Boulder
That Flocking Convection
## Appendix 3
### 2006/2007 Expense Report
#### September 1, 2006 – August 31, 2007

<table>
<thead>
<tr>
<th>Category Descriptions</th>
<th>Budget</th>
<th>Actual</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INCOME</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sponsorships</td>
<td>$27,100.00</td>
<td>$28,600.00</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>Contributions</td>
<td>$3,175.00</td>
<td>$1,942.32</td>
<td>($1,232.68)</td>
</tr>
<tr>
<td>In-Kind</td>
<td>$8,400.00</td>
<td>$8,187.21</td>
<td>($212.79)</td>
</tr>
<tr>
<td>Registrations</td>
<td>$11,340.00</td>
<td>$11,025.00</td>
<td>($315.00)</td>
</tr>
<tr>
<td>Grants</td>
<td>$9,600.00</td>
<td>$7,375.00</td>
<td>($3,125.00)</td>
</tr>
<tr>
<td><strong>General Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest</td>
<td>$500.00</td>
<td>$688.61</td>
<td>$148.66</td>
</tr>
<tr>
<td>Sales</td>
<td>$1,000.00</td>
<td>$1,115.00</td>
<td>$115.00</td>
</tr>
<tr>
<td>RSF Outreach Funds</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Pioneers of Science Awards</td>
<td>$360.00</td>
<td>$510.00</td>
<td>$150.00</td>
</tr>
<tr>
<td>Teacher of the Year Award</td>
<td>$3,000.00</td>
<td>$3,000.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>TOTAL General Income</strong></td>
<td>$4,860.00</td>
<td>$5,313.61</td>
<td>$413.06</td>
</tr>
<tr>
<td><strong>TOTAL INCOME</strong></td>
<td>$65,375.00</td>
<td>$62,443.14</td>
<td>($2,072.41)</td>
</tr>
<tr>
<td><strong>EXPENSES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Awards Ceremony</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash Awards</td>
<td>$10,880.00</td>
<td>$10,860.00</td>
<td>$20.00</td>
</tr>
<tr>
<td>Other Awards</td>
<td>$6,350.00</td>
<td>$4,860.83</td>
<td>($1,489.17)</td>
</tr>
<tr>
<td>Photos</td>
<td>$250.00</td>
<td>$153.79</td>
<td>$96.21</td>
</tr>
<tr>
<td>Press Release</td>
<td>$400.00</td>
<td>$480.00</td>
<td>($80.00)</td>
</tr>
<tr>
<td>Program</td>
<td>$300.00</td>
<td>$372.33</td>
<td>($72.33)</td>
</tr>
<tr>
<td>Room Rental</td>
<td>$600.00</td>
<td>$292.90</td>
<td>($307.10)</td>
</tr>
<tr>
<td><strong>TOTAL Awards Ceremony</strong></td>
<td>$18,780.00</td>
<td>$17,019.85</td>
<td>$1,760.15</td>
</tr>
<tr>
<td>CSSSF, Inc. Board</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communications</td>
<td>$505.00</td>
<td>$446.14</td>
<td>$58.86</td>
</tr>
<tr>
<td>Equipment</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Meetings</td>
<td>$1,200.00</td>
<td>$839.91</td>
<td>$360.09</td>
</tr>
<tr>
<td>Operations</td>
<td>$7,375.00</td>
<td>$7,548.82</td>
<td>($173.82)</td>
</tr>
<tr>
<td>Services</td>
<td>$200.00</td>
<td>$350.00</td>
<td>($150.00)</td>
</tr>
<tr>
<td>Supplies</td>
<td>$100.00</td>
<td>$908.02</td>
<td>($808.02)</td>
</tr>
<tr>
<td><strong>TOTAL CSSSF, Inc. Board</strong></td>
<td>$9,380.00</td>
<td>$10,092.89</td>
<td>($712.89)</td>
</tr>
<tr>
<td>Finalists</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activities</td>
<td>$2,200.00</td>
<td>$2,147.82</td>
<td>$52.18</td>
</tr>
<tr>
<td>Publications</td>
<td>$1,900.00</td>
<td>$1,033.61</td>
<td>$866.39</td>
</tr>
<tr>
<td>Registration</td>
<td>$4,900.00</td>
<td>$8,289.17</td>
<td>($3,389.17)</td>
</tr>
<tr>
<td>Room Rental</td>
<td>$675.00</td>
<td>$723.00</td>
<td>($48.00)</td>
</tr>
<tr>
<td>Transportation</td>
<td>$950.00</td>
<td>$1,046.50</td>
<td>($96.50)</td>
</tr>
<tr>
<td><strong>TOTAL Finalists</strong></td>
<td>$10,625.00</td>
<td>$13,240.10</td>
<td>($2,615.10)</td>
</tr>
</tbody>
</table>
## Appendix 3
### 2006/2007 Expense Report
#### September 1, 2006 – August 31, 2007

<table>
<thead>
<tr>
<th>Category Description</th>
<th>Budget</th>
<th>Actual</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ISEF</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affiliation</td>
<td>$500.00</td>
<td>$500.00</td>
<td>$0.00</td>
</tr>
<tr>
<td>Travel</td>
<td>$5,860.00</td>
<td>$4,640.06</td>
<td>$1,219.94</td>
</tr>
<tr>
<td><strong>TOTAL ISEF</strong></td>
<td>$6,360.00</td>
<td>$5,139.99</td>
<td>$1,220.01</td>
</tr>
<tr>
<td><strong>Judging</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communications</td>
<td>$1,000.00</td>
<td>$775.64</td>
<td>$224.36</td>
</tr>
<tr>
<td>Room Rental</td>
<td>$120.00</td>
<td>$95.00</td>
<td>$25.00</td>
</tr>
<tr>
<td>Supplies</td>
<td>$500.00</td>
<td>$483.65</td>
<td>$16.35</td>
</tr>
<tr>
<td>Thank Yous</td>
<td>$2,850.00</td>
<td>$3,198.87</td>
<td>($348.87)</td>
</tr>
<tr>
<td>Travel</td>
<td>$250.00</td>
<td>$0.00</td>
<td>$250.00</td>
</tr>
<tr>
<td><strong>TOTAL Judging</strong></td>
<td>$4,720.00</td>
<td>$4,553.16</td>
<td>$166.84</td>
</tr>
<tr>
<td>Outreach</td>
<td>$1,000.00</td>
<td>$879.60</td>
<td>$120.40</td>
</tr>
<tr>
<td>RSF Outreach</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>CSEF Expenses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult Sponsors</td>
<td>$350.00</td>
<td>$513.82</td>
<td>($163.82)</td>
</tr>
<tr>
<td>Advisory Council</td>
<td>$50.00</td>
<td>$55.04</td>
<td>($5.04)</td>
</tr>
<tr>
<td>Fund Raising</td>
<td>$200.00</td>
<td>$109.03</td>
<td>$52.89</td>
</tr>
<tr>
<td>Personnel</td>
<td>$7,110.00</td>
<td>$7,685.20</td>
<td>($575.20)</td>
</tr>
<tr>
<td>Publicity</td>
<td>$200.00</td>
<td>$13.23</td>
<td>$186.77</td>
</tr>
<tr>
<td>Regional Fair Directors</td>
<td>$300.00</td>
<td>$312.67</td>
<td>($12.67)</td>
</tr>
<tr>
<td>Supplies</td>
<td>$300.00</td>
<td>$274.62</td>
<td>$25.38</td>
</tr>
<tr>
<td>Volunteers</td>
<td>$1,425.00</td>
<td>$1,553.65</td>
<td>($118.65)</td>
</tr>
<tr>
<td><strong>TOTAL CSEF Expenses</strong></td>
<td>$9,935.00</td>
<td>$10,517.26</td>
<td>($582.26)</td>
</tr>
<tr>
<td><strong>SRC/Display and Safety</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communications</td>
<td>$250.00</td>
<td>$119.84</td>
<td>$130.16</td>
</tr>
<tr>
<td>Meetings</td>
<td>$600.00</td>
<td>$712.63</td>
<td>($112.63)</td>
</tr>
<tr>
<td>Supplies</td>
<td>$150.00</td>
<td>$138.89</td>
<td>$11.11</td>
</tr>
<tr>
<td><strong>TOTAL SRC/Display and Safety</strong></td>
<td>$1,000.00</td>
<td>$971.36</td>
<td>$28.64</td>
</tr>
<tr>
<td><strong>TOTAL EXPENSES</strong></td>
<td>$61,800.00</td>
<td>$64,414.21</td>
<td>($614.21)</td>
</tr>
<tr>
<td><strong>OVERALL TOTAL</strong></td>
<td>$3,575.00</td>
<td>$28.93</td>
<td></td>
</tr>
</tbody>
</table>