

San Luis Valley Regional Science Fair, Inc. 2018 Annual Report

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From start to finish, and at all levels of participation, the science fair experience is one not only of competition but also of camaraderie, creativity, cooperation, and education. This is the essence of the San Luis Valley Regional Science Fair.

Established in 1949, the San Luis Valley Regional Science Fair, Inc. is a private, non-profit organization, which holds a regional competition each year. More than 800 students from the San Luis Valley participate in Science Fair at their schools. The purpose of the fair is to stimulate student interest and encourage the students in science and engineering by recognition of their abilities and achievements.

This year's winners were chosen from among 273 exhibits presented by 303 finalists. These finalists represented seven public school districts, home-schoolers from the San Luis Valley, and students from two private schools. More than 300 judges, including professional scientists, engineers, medical professionals, mathematicians, and advanced Adams State University students, interview the students and evaluate their projects before selecting the winners. In addition, there were also businesses, professional societies, and government agencies that provide their own representatives to help judge exhibits based on their criteria. These judges confer the Special Awards, including scholarships, summer internships, cash, medals, and scientific calculators, which represents an aspect of the bestowing organization. Over 1500 people attended the Awards Ceremony this year which was held in Plachy Hall gym at Adams State University.

In addition, receiving the rare opportunity to speak with working scientists, SLV Regional Science Fair students participate in three grade level divisions for the grand awards in a number of categories: Behavioral and Social Science, Biomedical Science, Botany, Chemistry, Consumer Science, Earth and Space Science, Engineering, Environmental Science, Mathematics and Computer Science, Physics and Zoology.

Participating in Science Fair is one of the few activities that expect students to integrate virtually all areas of their academic development. They use the library for literature reviews, history and research; the students execute experimentation and generally complete mathematical analysis; they write reports; they utilize artistic styles in the preparation of their presentation boards; and they are expected to orally present their projects to the judges. Awards are also given for technical writing, oratory skills, display, originality, and overall projects. Winning Junior and Senior division projects are awarded trips to the Colorado Science & Engineering Fair, which is held in Fort Collins, Colorado. In addition, the two senior division students with outstanding overall projects are awarded an all-expense paid trip to the Intel International Science & Engineering Fair. In 2018 the Intel International Fair was held in Pittsburgh, Pennsylvania, where Colorado students competed with their peers from more than 80 countries, regions and territories to showcase their independent research projects.

Many educational experiences are made available to students who participate in the San Luis Valley Regional Science Fair. Recent programs have included Science From CU; the Alamogordo Space Center; Mobil Ed Productions; Physics is Fun; the Denver Museum of Nature and Science; Visible Productions and Mike Mullane (Ret.), NASA Astronaut. Last year's program, "Marine Biology was presented by Science From CU" Students discovered the watery world of jelly fish, seahorses sharks and other ocean creatures. They also learned about the characteristics of marine vertebrates and invertebrates by observing museum specimens

The judges' interviews and the educational programs allow the students to interact with professional scientists and engineers and with each other. 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 SLV Regional Science Fair.

Scholarships from Adams State University and other organizations are also presented. Adams State University awards \$3,000 in scholarships for outstanding science fair participants who have a desire to further their education at ASU. The San Luis Valley Research Center – Colorado State University, Department of Horticulture and Landscape Architecture - offers a \$900 summer internship to a San Luis Valley student, in grades eight through twelve, who shows excellence in the field of potato research, from the Botany category. A family scholarship was established several years ago that is awarded to a graduating senior student that will be attending Colorado State University and majoring in a field of science.

The San Luis Valley Regional Science Fair is devoted to increasing the academic involvement and excellence between all fourth through twelfth grade students in our region. Student winners from each category are presented monetary awards. There are also many local and national awards that are presented to deserving student participants. With the help of our local sponsors and contributors, the San Luis Valley Regional Science Fair is able to present \$28,000 (either in monetary awards, scholarships, all-expense paid trips to the international fair or material awards) to the outstanding students of our region.

Organization

The San Luis Valley Regional Science Fair would not be possible without the dedication and tremendous efforts of many committed individuals, as well as public and private organizations, school districts, Adams State University, government agencies, corporations, professional associations, and local businesses. These groups sustain the Fair through their financial and resource support, special awards, and most importantly, through providing dedicated volunteers to serve on the Fair's working committees and/or Board of Directors. Many of these businesses not only make monetary donations, but also allow their employees to serve as judges for the San Luis Valley Regional Science Fair. Prior to this regional event, many local school fairs are conducted throughout the region. Each of these fairs is supported by hardworking and dedicated educators at the local school level. Before a student's project is accepted at the Regional Fair, it requires the encouragement and support from individual teachers, science fair coordinators, and parents to help the student see their project from conception to the finished exhibit. The success of the San Luis Valley Regional Science Fair is dependent on all of these dedicated individuals.

To organize and stage the Fair every year requires a great effort by many people, but it also offers many personal challenges and rewards. To witness the level of achievement, pride, and excitement of these bright young people in their scientific endeavors is one of the rewards that all volunteers of the Fair share. It also speaks of the high level of students' aptitude and enthusiasm for science in the San Luis Valley.

Mission Statement

The San Luis Valley Regional Science Fair is an organization that:

- Honors winners from local San Luis Valley school fairs at an annual Regional Science Fair
- Sends finalists from the Regional Science Fair to the Colorado Science and Engineering Fair (CSEF)
- Provides two overall winners at the Regional Science Fair with an all expense paid trip to participate in the Intel International Science and Engineering Fair (ISEF)
- Encourages students to pursue careers in science, technology, mathematics, or engineering
- Provides a forum for developing academic skills, such as conducting an independent scientific investigation, writing a research paper, speaking, preparing an organized display, and becoming familiar with the scientific method.

The San Luis Valley Regional Science Fair supports local school fairs by:

- Providing a forum where local fairs can influence policies, rules, and by-laws of the San Luis Valley Regional Science Fair
- Providing rules and requirements for participation in all fairs Regional, State, and International.
- Coordinate mentors
- Provides judges and critique at local school fairs.

Impact Statement

The following represent some of the impacts the San Luis Valley Regional Fair has had on the San Luis Valley:

- Awareness, appreciation, and recognition of the importance of science in our society, livelihoods, academic achievement and lifelong success
- An increased awareness of academic competition and the importance of science among Valley educators
- An increased quality of educational activities in all schools in the region
- An increased usage of libraries and the Internet
- An increased exposure to robotics, holography, pathology, space art, moon geology, and the scientific method to the general public.

* * *

Going to the 2018 Intel International Science and Engineering Fair in Pittsburgh was one of the best experiences of my life. Not only did I have a ton of fun, but I also learned a lot. I am so grateful for the opportunity to go to ISEF and so thankful for all the people who helped me get there. This experience made all of the hard work completely worth it and I will continue to strive in the field of science. Since I visited ISEF in Pittsburgh 3 years ago, I really enjoyed being able to go back and see how things had changed. As before, I enjoyed exploring the city, Heinz Field, the Carnegie Science Center, and other beautiful sites of Pittsburgh. Although it was very nerve racking, one of my favorite parts of the week was being interviewed live on NPR's Science Friday's with Ira Flatow. It was a completely new and exciting experience that I am very grateful for. If my quiet, introverted self is able to end up on national radio, that just shows how many amazing opportunities science fair can lead to.

- Alyssa Rawinski, Monte Vista High School

Top Winners of the 2018 San Luis Valley Regional Science Fair

COLORADO AWARD WINNERS

The following students were chosen to represent the San Luis Valley Regional Science Fair at the Colorado State Science Fair:

Senior Division

Molly Nehring - Monte Vista High School	Alyssa Rawinski - Monte Vista High School
Michael Savala - Monte Vista High School	Amber Michel - Monte Vista High School
Sara Nehring - Monte Vista High School	Aaliyah Garcia - Center High School
Matyson Jones - Monte Vista High School	Keaton Fischer - Sierra Grande High School
Gurleen Kaur - Alamosa High School	Andres Villa – Monte Vista High School

Junior Division

Camille Rawinski - Monte Vista Middle School	Marissa Martinez - Monte Vista Middle School
Maddison Miller - Monte Vista Middle School	Kamryn Holland – Sargent Middle School
Josh Sawyer - Sargent Middle School	Ashlyn Rockey - Sargent Middle School
Augustus Miller – Monte Vista Middle School	Parker Ford - Sargent Middle School

INTEL/ISEF WINNERS

The following two students were chosen to represent the San Luis Valley Regional Science Fair at the Intel International Science and Engineering Fair:

Molly Nehring - Monte Vista High School Alyssa Rawinski - Monte Vista High School

Alternate INTEL/ISEF WINNER

Amber Michel - Monte Vista High School

Junior Observer Award

Camille Rawinski - Monte Vista Middle School

TEACHER AWARDS

The following teacher was chosen to attend the Intel International Science and Engineering Fair:

Loree Harvey - Monte Vista High School

SCHOOL AWARDS

The following School Awards are based on the total tabulations of all Grand Awards received by their students:

Small Elementary School	Sangre de Cristo Elementary School
Large Elementary School	Bill Metz Elementary
Small Middle School	Sargent Middle School
Large Middle School	Monte Vista Middle School
Small High School	Sierra Grande High School
Large High School	Monte Vista High School

WORKING COMMITTEE MEMBERS

Fair Director: Lucy Adams

The Fair Director is actively involved in all working committees hereto mentioned and is also an ex-officio member of the SLV Regional Science Fair Board of Directors.

Awards Ceremony: SLV Regional Science Fair Board of Directors

Joy DiCamillo Judy Prester Tayler Rocha

Display and Safety: Dr. Curtis Crawford

Finance: SLV Regional Science Fair Board of Directors

Publishing: Joy DiCamillo and Judy Prester

Registration: SLV Regional Science Fair Board of Directors

Regular Judging: Diana Jones - Judge Coordinator

Room Setup: SLV Regional Science Fair Board of Directors

Monte Vista High School MESA/Science Club Parent Volunteers ASU Facilities

Scientific Review Committee: Dr. Larry Sveum - Chair

Curtis Crawford- DVM

Ms. Jody Oaks Devon Davey Dr. Marty Jones Ms. Loree Harvey

Website Committee: Julie Messick

Chad Chavez Tayler Rocha

Having the opportunity to experience and compete at ISEF has opened new doors for me. Not only did I have an amazing week in a new city but I heard speakers and got more ideas. It was an amazing experience to meet people from all around the world and to see their cultures and hear their ideas. I made new connections to broaden my ideas for this upcoming year and learn more from my last. I also had the incredible opportunity to be interviewed by Sally Jewell, former Sec of Interior representing AGI, American Geosciences Institute.

(https://www.youtube.com/watch?time_continue=165&v=mPGM7zO6duU). The week in Pittsburgh will be one of my best memories of high school and science fair.

-Amber Michel, Monte Vista High School

Highlights of the San Luis Valley Regional Science Fair for 2018

2019 will be 70 years of Regional Science Fair in the San Luis Valley. What an honorable history of an organization!

Two students were awarded an all-expense paid trip to attend the Intel ISEF at Pittsburgh, PA this past spring. Since one of these students was chosen to represent Colorado State at Intel we were able then to send our alternate winner too! The fair was again successful, thanks to wonderful sponsorship that allowed a middle school student to attend the Intel International Science and Engineering Fair, as a student observer.

The 2018 Regional Fair had a total of 272 students that participate this past spring. This number breaks down to 133 males and 139 females attending fair. There were a total of 237 projects at the fair. Seven public high schools, 10 middle and 10 elementary schools participated in the fair this past year. Two private schools participated in the junior and elementary divisions this year also.

Eighteen junior and high students were awarded the honor of attending the Colorado State Science and Engineering Fair which was held in Ft Collins, at Colorado State University, April 6, 2018. In the senior Grand Awards, one 1st place, 2 second place, 1 third and 1 fourth place awards were received by our students. At the junior high level, two second places, one third and two honorable mention awards were handed out.

10 of our students placed in the grand awards. There were 18 different special awards which had a total monetary amount of \$1350 given to eight of our students.

The Teacher of the Year Award, sponsored by Lockheed Martin was awarded to Terri Paulson, Sargent Middle School.

Adams State University awarded one \$5000 scholarship to one of our students. This scholarship is equivalent to one-year tuition and fees (approximately \$36,000) and has renewal potential.

Colorado State University awarded one \$1000 Scholarship for a student to attend CSU, and that is also renewable for up to three additional years.

The website, SLVRSF.org has material for our teachers, parents and students linked on it. There is also a registration form for our judges. Student registration for the 2019 fair will be available at a later date. One may also find the Board of Directors, the mission statement and history of SLVRSF on the website.

New contributors and visitors to the site are able to view information on how to donate/contribute to the fair. Additional support to the SLV Regional Science Fair can be given by using GoodSearch, GoodShop, Razoo and AmazonSmiles. Links may be found by visiting our website at:

SLVRSF.org

Another great year for the San Luis Valley Regional Science Fair!

Intel ISEF was one of the most amazing things that I had the opportunity to attend. As the student observer, I had so much fun traveling, learning, and meeting new people. One of my favorite parts of the fair was meeting new friends. At the pin exchange, I made friends from Puerto Rico, Egypt, Uruguay, and many more places. This was a great experience to learn more and to become a better scientist. I will try my hardest to make it to ISEF again, to compete this time. It was one of the best, most fun experiences in my life. Thank you so much for contributing to send me there! I appreciate all that you do!

Camille Rawinski, Monte Vista Middle School

Intel ISEF has been the single most influential and life changing thing in my high school career. Each of the three times I've had the privilege to go, it's been incredibly inspiring, fun, and an experience I'll cherish forever. I've had the chance to interact with and compete against the brightest minds of my generation, in addition to making friends with people who live a world and a culture away. ISEF never ceases to amaze. This year in Pittsburgh, I got to learn and explore with a group of people I have known for most of my life. The San Luis Valley group got very well acquainted with the rest of the Colorado contingent, a new and very cool experience to be united as a state, be it for getting ice cream or sitting together for ceremonies and presentations.

One of the most impressive things about ISEF is always the amount, scale, and complexity of the ideas, projects, and solutions to the world's problems that are showcased at the fair. I got so many different ideas and was just mind-blown by the creativity of my fellow youth scientists. On public day, I actually had the privilege (though I didn't know it then) of talking with and

getting to know the finalist who went on to win the \$75,000 Gordon E. Moore Award for his impressively complicated and innovative

robotics project.

I can't thank everyone involved with SLVRSF enough for this. Science fair has opened so many doors for me, and has undeniably provided opportunities and resources for me and my future that I wouldn't have otherwise. Here's to many more years of success for the most creative, committed, hard-working, and intelligent students of the San Luis Valley.

- Molly Nehring, Monte Vista High School

2019 logo artwork designed by Ana Lumsargis, Monte Vista Online School/Delta Center

I am one of the lucky few that has attended intel ISEF, I have only attended as an observer but it is still a wonderful experience. One of my favorite parts of the trip is meeting people from different countries. It's like traveling all around the world while being able to stay in the US. The best time to meet people is at the pin exchange. We got to meet people just like us that was interested in science and changing the world.

The coolest part about this years ISEF was that we were able to meet up with most of the Colorado group at each award ceremony so that we could cheer together as a Colorado finalist went up on stage. After the last awards ceremony I had the Coloradans sign a Colorado flag that I brought to remind me of the wonderful experience I had.

I want to thank all the wonderful people at the SLV Regional Science Fair that make these experiences possible. It really opens your eyes to see how many choices we have in life.

Sara Nehring, Monte Vista High School

I would like to express my extreme gratitude for the support you have given our students here at the Monte Vista School District, particularly those students who have qualified for the International Science and Engineering Fair (ISEF) as either Finalists or Student Observers. It is difficult to quantify the extent of impact that your support has provided to our students, but I will do my best to express it here.

We had a phenomenal group of young ladies qualify for ISEF in the spring of 2018 - Amber Michel, Molly Nehring, Alyssa Rawinski, and Camille Rawinski. These ladies did projects ranging from examining water quality and macroinvertebrates of the Alamosa River, evidence of exoplanets in Kepler Space Telescope data, using mealworms as a means of reducing plastic

waste, to investigating the physical characteristics and behavior of horses. Science Fair has provided these ladies with the opportunity to explore these questions in the manner of practicing scientists, and share their findings with a wide range of audiences including their own peers, educators, and valley professionals from a variety of backgrounds. The skills and abilities these students have gained is immeasurable: authentic scientific research techniques, public speaking, technical writing, and the discipline gained from working on a months-long research project.

At ISEF in Pittsburgh PA, these ladies broadened their experiences to an even greater degree as they participated in one of the largest Science and Engineering Fairs in the world. Our students became part of powerful gathering consisting of 1800 young scientists from 81 countries, allowing them to mingle with these enthusiastic and brilliant kids, and share their science stories, culture and ideas. For students from a rather isolated mountain valley, this type of exposure can be simultaneously intimidating, amazing, and life-altering. It lets them know that they are part of a much larger group of creative thinkers, and that future opportunities and experiences await them in our global science community. It lets them know that they too can be part of something big, do great things, and make a difference at many levels of society.

There are many valuable opportunities and extra-curricular activities (both athletic and academic) that students have as they progress along their educational careers in Middle and High School. However, I believe that Science Fair provides one of the most authentic and meaningful pre-college academic experiences that a budding scientist can have. The San Luis Valley Regional Science Fair (and by extension, the Colorado State Science & Engineering Fair, and ISEF) provide an invaluable and irreplaceable platform for students transforming from young science explorers to actual practicing scientists tackling the world's technical, medical, and environmental challenges, and pushing the frontiers of our knowledge of the universe. I cannot think of a higher calling or more important function of an organization.

So I simply say with deepest sincerity, thank you for being this organization, and doing everything you can do to support these kids, and the greater mission of helping to create tomorrow's innovators and problem-solvers.

--Ms. Loree Harvey, Monte Vista High School Science Teacher/ Science Fair Coordinator



This summer our Science Fair family lost a very respected member. Doug Steward, Monte Vista, passed away August 10, 2018. Doug taught science classes for 36 years, the last 18 years at Monte Vista High School. I first met Doug at an International Fair and his introduction was "I'm from the valley!" At the time he was teaching at Weld Central and was also my cousin's children science teacher! Such a small world.

Doug served on the Scientific Review Board for the Monte Vista School District, the regional fair and chaired this committee at the state level for many years.

A committee has been identified to design a memorial in Doug's name. If you would like to contribute to this endeavor, please contact me.

Thank you – Lucy Adams, Director 719-587-5412

2018 Contributors

ALAMOSA

1st SouthWest Bank Ace Hardware **AGRO** Engineering

Alamosa Dental Lab Alamosa Elks Lodge

Alamosa Kiwanis Alamosa Optimist Club

Alamosa Rotary Alamosa State Bank Alpine Veterinary Hospital

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Colorado Field Institute Colorado Open Lands

Colorado Realty & Land Colorado Rio Grande Headwater

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K W Farms Loaf 'N' Jug Martinez & Assoc.

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Right Carpet

Rock Creek Family Medicine Rocky Mountain Eye Center San Luis Valley STEM Shop

Sherwin-Williams

SLV Behavioral Health Group

SLV Brewing Company

SLV Ecosystem Council SLV Federal Bank

SLV Health

SLV Principals Assn.

SLV Trout Unlimited

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Colorado Chapter Steve Schiffer, DDS Super 8 Motel

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CENTER

Aspen Produce LLC Biel Crop Consulting Center CD Center Kiwanis Central Pump Farm Service Gunbarrel Station Rio Grande Watershed Conservation/Education Inc. SLV Research Center Southern Colorado Farms

Willy & Karen Hoffner

CREEDE

Holy Moses Broken Arrow Ranch & Land Co. Broken Arrow Property Mgt.

DEL NORTE

Del Norte Bank Del Norte Napa Auto Parts **DMRC** Jack's Market Kristi Mountain Sports Rio Grande Hospital

LA JARA / MANASSA

Cactus Hill Ag Consulting Conejos Co. CD Conejos Co-La Jara Rotary Manassa Market

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KGIW KSLV Marty & Diana Jones

MESA/Science of Monte Vista

High School O & V Printing Pepsi Cola SLV BOCES SLV Scenic Railroad

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Texas Instruments Van Ianwaarden Builders Wolf Creek Ski Area