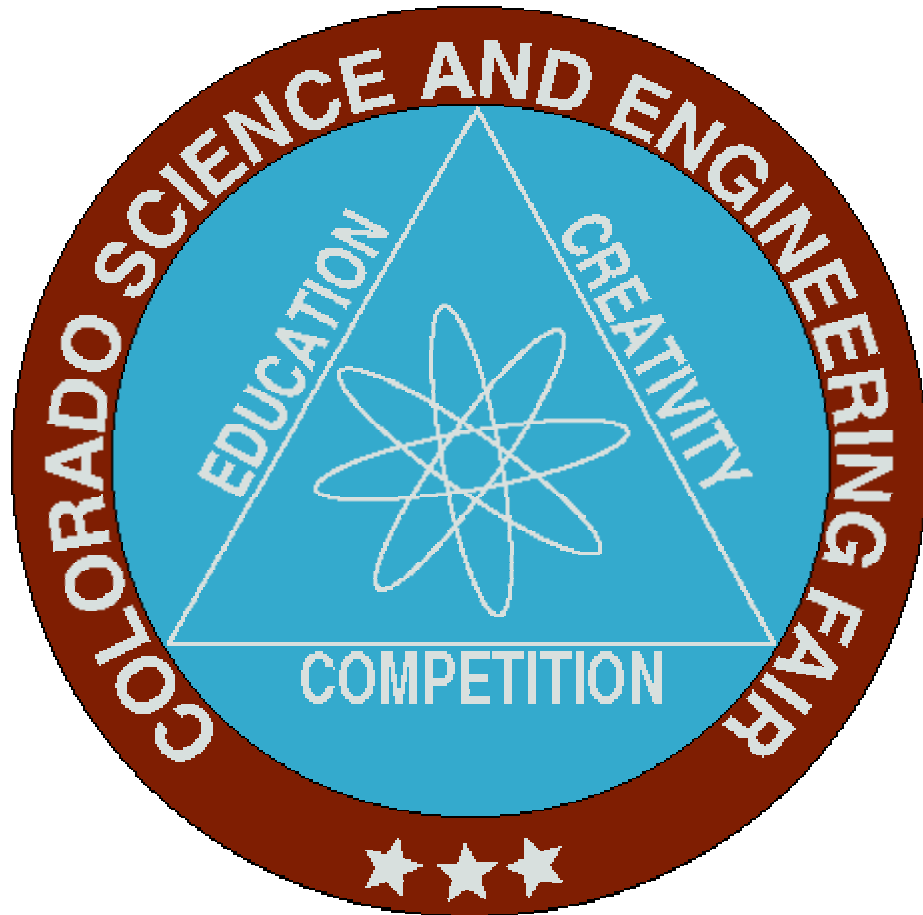


1993 Annual Report



1993 Annual Report

The science fair experience is, from start to finish and at all the various levels of participation, an experience of not only competition, but also camaraderie, creativity, and education. This is the essence of the logo for the Colorado Science and Engineering Fair.

Annually, for over thirty-seven years, the Colorado State Science Fair (now officially renamed the Colorado Science and Engineering Fair) has been held to encourage and display the talents of Colorado's top science students, grades 7 – 12. Each year, over 220 scientifically talented youths from thirteen regions around our state display their exhibits. Professional scientists for the Colorado scientific community judge the presentation of each student's exhibit, review the student's research notebook, and interview each participant. Each student is sponsored by a teacher or other mentor.

The exhibits compete for state fair awards in one of seven categories: Botany, Earth & Environmental Sciences, Engineering, Health & Behavioral Sciences, Mathematics & Computer Sciences, Physical Sciences, and Zoology. Recognition is given to the students with outstanding exhibits in each of the categories as well as one in technical writing. Special awards are also given by professional organizations, government agencies, and industries for exhibits that best represent their particular emphases or philosophies. The top two senior division winners are awarded a trip to the International Science and Engineering Fair. This year, it was held in Mississippi Beach, Mississippi, where they competed with other winners from across the United States and several foreign countries.

Many educational experiences are available to participants of the CSEF. Tours of university and local corporate research facilities give the students and their families an opportunity to see research in action. The judges' interviewing process and the Food, Fun and Friendship Mixer after judging allows the students to interact with professional scientists. The opportunity the students have to interact with other students who share their interest in science may be the most beneficial aspect of the CSEF.

1993 Colorado Science and Engineering Fair

The 38th Colorado Science and Engineering Fair was held at the Lory Student Center on the Colorado State University campus on April 8 – 10, 1993. Two hundred twenty-four students participated in this three day event and competed for honors in their respective categories. Mahesh Mahanthappa from Fairview high School in Boulder, took first place this year in the All Fair competition. His project was *On the Diophantine Equation $x^m + D = x^n$* . He received an expense paid trip to the International Science and Engineering Fair. Runner-up in the All Fair competition was Eric Knoll of Cherry Creek High School in Denver for the exhibit *A Two Year Study of Intracellular Processes Affecting Pigment Expansion in Melanocytes*. He also received a trip to the International Science and Engineering Fair. Third place in the Senior Division was Mindy Anderson of Cherry Creek High School in Denver for the exhibit *Does Nutrasweet Break Down to Form Free Methanol in Diet Beverages?*

The top winner of the Junior Division was Jennifer McFadden of Cedaredge Middle School for the exhibit *Effects of *Equss* and *Bos* on *Giardia Lamblia* Cyst Concentrations*. The runner-up in the Junior Division was Emily Hopkins of Peyton School for the exhibit *Polyacrylamide*. Third best in the Junior Division was Hope Teyler of Ortega Middle School for the exhibit *Pump Up the Volume*.

The winner of the Ralph F. Desch Memorial Technical Writing Award was Mahesh Mahanthappa of Fairview High School in Boulder.

1993 International Science and Engineering Fair

The 44th International Science and Engineering Fair was held May 9 – 15th at the Mississippi Coast Coliseum in Mississippi Beach, Mississippi. This year 829 finalists represented 20 countries from around the globe. There were 13 disciplinary categories and a new 14th Team Projects interdisciplinary category. Colorado sent 16 delegates who participated in 7 of the categories.

Colorado's top CSEF finalist, Mahesh Mahanthappa from Boulder, Colorado was awarded the highest honors and most prestigious ISEF award this year! Mahesh won an all expense paid trip to attend the Nobel Prize Ceremonies in Stockholm, Sweden. He was chosen from among all of the finalists who received First Place ISEF Grand awards – Mahesh took 1st Place in the Mathematics Category again this year. The 1st Place award was \$500, a school plaque, \$250 equipment and book purchasing grant, and a 486 Intel computer for his school.

The other Colorado ISEF winners are: 3rd Place – (\$200 cash award) Jason Oraker, Colorado Springs – Behavioral & Social Sciences, Jennifer Doles, Cedaredge – Botany, Rajen Sheth, Englewood – Engineering, Tobey Cho, Colorado Springs – Environmental Sciences; 4th Place – (\$100 cash award) Mindy Anderson, Englewood – Chemistry. In all, Colorado students won 18 awards. Colorado is justifiably proud of these top young scientists!

Organization

The Colorado Science and Engineering Fair would not be possible without the dedication and tremendous efforts of many organizations including school districts, universities, government agencies, corporations, professional associations, and individuals. These groups sustain the CSEF through financial and resource support, special awards and most importantly, dedicated volunteers.

The CSEF volunteers make the fair possible by serving on the Advisory Council and its various committees. They, and others, also serve as CSEF judges. Thirteen regional and many local school fairs are conducted throughout the state prior to this fair by hardworking and dedicated educators. Before the exhibits ever get to fairs, it takes the teachers, sponsors, and parents who have helped to support and encourage the students from the project's inception. The Colorado Science and Engineering Fair is a product of all these people.

The success of each year's fair is directly dependent upon the support of public and private organizations, government agencies, school districts, universities, and the efforts and coordination of more than three hundred dedicated volunteers. To organize and stage the fair each year requires a very large effort with many challenges and personal rewards. The level of achievement, pride and excitement of these bright young people in their scientific endeavors is a good indication that the level of science aptitude in Colorado schools is very high.

Sponsors

American Cancer Society
Anheuser-Busch, Inc.
CH2M Hill, Inc. Engineering
Colorado Engineering Council
Colorado Medical Society
Colorado Memory Systems
Colorado State University
Coors Brewing Company
Colorado State University
Division of Continuing Education
Eastman Kodak Company

EG&G, Rocky Flats Plant
A Foundation for Basics
Gates Corporation
Hewlett Packard Company
Martin Marietta Astronautics
National Renewable Energy Lab
Public Service Company of Colorado
StorageTek Corporation
US Department of Commerce
NTIA, NOAA, NIST

Colorado Science and Engineering Fair Sponsors provide the majority of the financial and resource support. In addition, each sponsor also provides two volunteers to serve on the CSSF, Inc. Board of Directors.

Board of Directors

President: John Jacobi
Vice President: John Lehman
Secretary: Sue Refner
Treasurer: Jim Sites
Interim CSEF Director: Christopher Andrews
CSEF Coordinator: Kate Taylor

A Foundation for Basics – Ruth Taylor, Don Taylor
American Cancer Society – Richard Shipman, Jennifer Scott-Nazaryk
Anheuser-Busch, Inc. – Skip Beck
CH2M Hill, Inc. Engineering – Vacant
Colorado Engineering Council – Gina Holland
Colorado Medical Society – Vacant
Colorado Memory Systems – Kristin Howerton
Colorado State University – Tom Gorell, Jim Sites
Colorado State University, Division of Continuing Education – Ken Yoder
Coors Brewing Company – Lynn Gillfillan
Eastman Kodak Company – Charles Herrick, Sue Refner
EG&G, Rocky Flats Plant – Kay Bentzen
Gates Corporation – Martha Hoff, Mark Newberry
Hewlett-Packard Company – John Jacobi
Martin Marietta Astronautics Group – Sharon Linhardt
National Renewable Energy Lab – Dan Blake, Robert McConnell
StorageTek Corporation – Vacant
US Department of Commerce/NIST – John Lehman, Fred McGehan
US Department of Commerce/NOAA – Joe Allen
US Department of Commerce/NTIA – Elizabeth Pol, Evelyn Yohe

In addition, generous financial support has been provided by these firms, organizations, and individuals.

Financial Contributors

American Society of Civil Engineers Auxiliary
American Welding Society, Colorado Section
Ball Aerospace Corporation
COBE Laboratories
Colorado State University, College of Natural Sciences
Colorado Dental Association
Center for Science, Mathematics and Technology Education, Colorado State University
Denver Federal Center Professional Engineering Group
Gina Holland
King Soopers
Sam Shushan
Sundstrand Aviation

Working Committees

Interim CSEF Director – Christopher Andrews
CSEF Coordinator – Kate Taylor

Awards Ceremony – Lynn Butler, Ken Yoder, John Jacobi, Linda Preston, Tom Gorell, Gina Holland, Fred McGehan

Finance – Carl Edstrom, Dan Blake, John Lehman

Host Families – Lynn Butler

Photography – Larry Jakel, Frank Sander, Sue Refner, Lynn Butler, Evelyn Yohe
Publicity – Sue Roweder

Registration – Kate Taylor, Ruth Taylor, Carl Edstrom, Jan Sorenson, Kristin Howerton, Skip Beck, Wendy Wells

Regular Judging – Gina Holland

Special Awards Judging – Fred McGehan

Room Set-Up – Jim Sites, Virgil Sandborn, Dell Wharry, Tom Gorell, John Lehman, Skip Beck, Elemer Bernath

Rules/Display – Elemer Bernath, Sam Shushan, Joe Allen, Orville Boge, Steve Iona, Dan Van Gorp, Dell Wharry, Elizabeth Pol, Owen Smith, Leo Armstrong, Doug Steward, Larry Schmeekle, Connie Vader, Don Gabriel

Scientific Review – Elemer Bernath, Charles Johnson, Sam Shushan, Steve Iona

Tours/Speaker – Lynn Butler, Rich Shipman, Skip Beck, Kristin Howerton, Christopher Andrews, Gary Carnes

Volunteers – Tom Gorell, Lynn Butler, Jack McGrew, Johannes Gessler, Jack Fenwick, Darin Wells, Wendy Wells

Past Colorado Science and Engineering Fair Directors

Charles Bragaw	1956-1967
Calvin Fisher	1968-1974
Sam Shushan	1975-1977
Gordon Moore	1978
Russell B. Stoner	1979-1981
Virgil Sandborn	1981-1983
James Sites	1984-1985
Llyod Walker	1986-1988
Connie Vader-Lindholm	1989-1990
Lynn Butler	1991
Kate Taylor	1992

Advisory Council

Ken Allen	Paul Josephson
Christopher Andrews	Jack McGrew
Nancy Andrews	Beverly Meier
Leo Armstrong	Linda Preston
Don Boyle	Robert Reinsvold
Herbert Brauer	Sue Rohweder
Lynn Butler	Virgil Sandborn
Gary Carnes	Frank Sander
Carl Edstrom	Sam Sushan
Calvin Fisher	Owen Smith
Don Gabriel	Doug Steward
Johannes Gessler	Russell B. Stoner
Larry Jakel	Connie Vader
Gregg Janus	Dan Van Gorp
Charles Johnson	Darin and Wendy Wells
Katheryn Jones	Evelyn Yohe

CSEF Advisory Council also includes all Regional Fair Directors and the CSSF, Inc. Board of Directors.

Regional Science Fairs

Arkansas Valley

Dell Warry, Director

Boulder Valley

Jan Sorenson and Barb Coleman, Co-Directors

Denver Metro

Herschel Neumann and Steve Iona, Co-Directors

East Central

Harry Wolf, Director

Longs Peak

Terry Scott and Jerry Bauer, Co-Directors

Morgan/Washington Bi-County

Elmer Bernath & Larry Schmeekle, Co-Directors

Northeast Colorado

Brenda Zink, Director

Pikes Peak

Georgia Matteson, Director

San Juan Valley

Don May, Director

San Luis Valley

Lucy Adams, Director

Southeast Colorado

Robert Williams, Director

Spanish Peaks

Usha Herbert, Director

Western Colorado

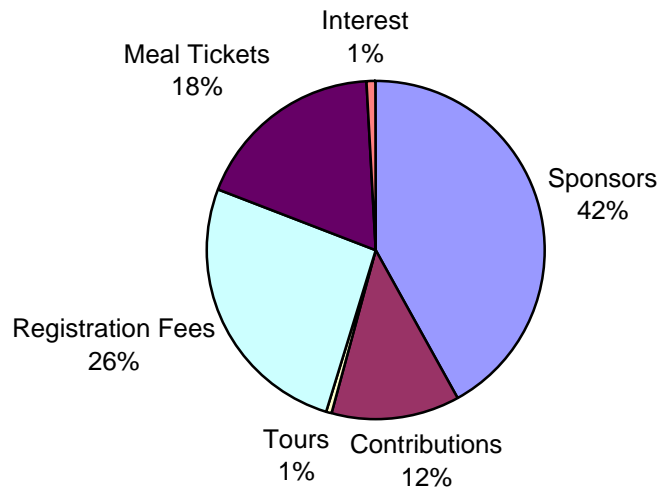
Orville Boge and Rob Robison, Co-Directors

Colorado State Science Fair, Inc.

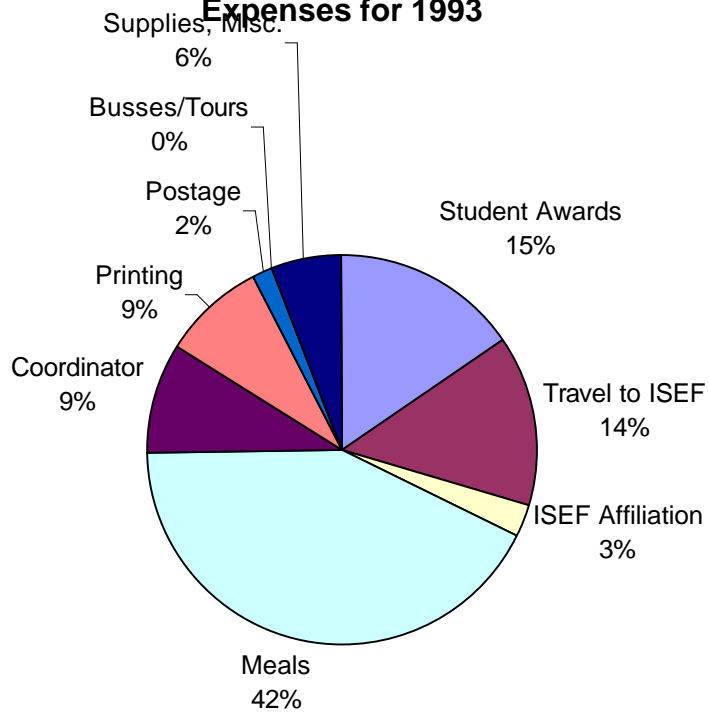
INCOME	1990	1991	1992	1993
Sponsors	\$6,000	\$5,000	\$8,000	\$7,850
Contributions	\$2,420	\$1,745	\$1,530	\$2,250
Tours	\$160	\$185	\$196	\$107
Registration Fees	\$4,000	\$4,260	\$4,334	\$4,928
Meal Tickets	\$3,381	\$3,123	\$3,456	\$3,423
Interest	<u>\$155</u>	<u>\$197</u>	<u>\$154</u>	<u>\$134</u>
	\$16,111	\$14,510	\$17,670	\$18,692
 EXPENSES				
Student Awards	\$2,209	\$2,061	\$2,791	\$2,946
Travel to ISEF	\$2,542	\$3,656	\$3,182	\$2,708
ISEF Affiliation	\$400	\$500	\$500	\$500
Meals	\$5,607	\$6,241	\$6,274	\$8,110
Coordinator	\$1,000	\$0	\$1,250	\$1,750
Printing	\$1,987	\$1,932	\$1,463	\$1,646
Postage	\$159	\$172	\$200	\$291
Busses/Tours	\$200	\$50	\$0	\$0
Supplies, Misc.	<u>\$549</u>	<u>\$728</u>	<u>\$1,255</u>	<u>\$1,129</u>
	\$14,653	\$15,340	\$16,915	\$19,080
 ASSETS				
Checking	\$552	\$178	\$848	\$324
Savings	<u>\$3,232</u>	<u>\$2,779</u>	<u>\$2,934</u>	<u>\$3,068</u>
	\$3,784	\$2,957	\$3,782	\$3,392
 PARTICIPANTS				
	200	213	197	224

1993 Financial Profile

Income for 1993



Expenses for 1993



38th ANNUAL COLORADO SCIENCE AND ENGINEERING FAIR

Lory Student Center

Fair Headquarters: Room 220/222

Colorado State University

THURSDAY, April 8, 1992

9:00 – 11:00 AM Exhibit Area Open for Set-Up
*Exhibitor **MUST** stay with exhibit until Exhibit Check-Off Sheet is signed by Photo and Rules Committee Members.*

11:00 – 11:30 AM Exhibit Area Open to Media
Exhibitors must stay with exhibits for possible media interviews.

10:30 - 11:00 AM Grand Awards Judge Captain's Briefing: Middle Ballroom

11:00 - 11:30 AM Grand Awards Judge's Briefing: Middle Ballroom

11:30 AM - 12:30 PM Grand Awards Judge's Luncheon: East Ballroom

12:30 - 1:00 PM Special Awards Judge's Briefing: Middle Ballroom

12:00 - 5:00 PM JUDGING

12:00 - 1:00 PM	<u>Grand Awards Judges</u> only in exhibit areas.
1:00 - 2:00 PM	Special Awards Judges may enter exhibit areas. <u>Judges only</u> in exhibit areas.
2:00 - 5:00 PM	<u>Students must be at their exhibits for interviews.</u>

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

1:45 - 2:00 PM **Finalist Orientation Meeting:** Middle Ballroom

2:00 - 5:00 PM Parent/Teacher/Sponsor's Lounge: Cookies in the Middle Ballroom
Co-Sponsored by CSMATE

5:00 – 8:00 PM FOOD, FUN and FRIENDSHIP: Free special event for students, their sponsors and family, and judges in the Middle Ballroom.

FRIDAY, APRIL 9, 1993

9:00 AM - 5:00 PM **Colorado State Science Fair Open to the Public**

9:00 - 9:30 AM Guest Speaker: Dr. Thomas Sutherland, Professor Emeritus, Department of Animal Sciences, and former Middle East hostage.

9:40 AM – 3:30 PM **Tours:** Students, their sponsors, family, and judges are invited to participate in the tours by pre-registering on Thursday morning.

10:30 AM – 12:00 Noon Regional Fair Director's Meeting: Room 220/222

12:00 Noon – 1:00 PM Planning Meeting for ISEF: Representatives from ALL Delegations Statewide meet in Room 220/222.

SATURDAY, APRIL 10, 1993

8:00 – 9:00 AM Advisory Council Breakfast: Longs Peak Dining Room

9:00 AM - 12:00 Noon **Colorado State Science Fair Open to the Public**

9:00 – 10:30 AM Advisory Council Meeting: Room 220/222

11:30 AM – 2:00 PM **Awards Luncheon:** Main Ballroom

2:30 – 3:00 PM Exhibit Dismantling: **Everything must be removed by 3:00 PM.**

Upcoming Intel/International Science and Engineering Fair, Mississippi Beach, May 9 – 15 1993.

NEXT YEAR'S COLORADO SCIENCE AND ENGINEERING FAIR: APRIL 14 – 16, 1994.