



Alamo Regional Academy of Science & Engineering

The contents of this document include information on the activities of the Alamo Regional Academy of Science and Engineering (ARASE), a Non-Profit Educational 501(c)(3) Organization.

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Who is A.R.A.S.E.?

Brief History

A.R.A.S.E. (Alamo Regional Academy of Science & Engineering) is an educational non-profit 501(c)(3) organization promoting pre-college science and engineering research awareness among students and teachers (gr. 6-12) in charter, private, public, parochial, and home schools.



Sister Joseph Marie Armer (1907-2000) of the University of the Incarnate (formerly known as Incarnate Word College) established A.R.A.S.E. in 1956 to encourage students to do hands-on research and present their research in a public forum. Students use scientific skills to conduct their experiments and present the results before members of the scientific community. A.R.A.S.E. initiatives service students, parents, and science teachers by addressing guidelines for safe laboratory practices, as well as providing annual seminars focusing on federal and state regulations governing experimental research. A.R.A.S.E. schedules Scientific Review Committee (SRC) Clinics to assist students and teachers with their scientific protocol. In addition to school visitations, A.R.A.S.E. sponsors the following three main annual events:

SCIENCE FAIR SEMINAR

The seminar an overview of the rules and guidelines of experimental research. Exhibitors in the field of science provide teachers with educational enrichment resources. Teachers receive six hours of Continuing Professional Education (CPE) Credit from the Texas Education Agency (TEA).

JUNIOR ACADEMY OF SCIENCE (JAS)

The JAS competition is held at the University of Texas at San Antonio in February. Students present a 12-minute oral presentation on their research before judges from various fields of science. The top high school presenters are encouraged to apply to the Texas Junior Academy of Science (TJAS) held in April at Texas A&M University (College Station). TJAS selects students to present at the American Junior Academy of Science (AJAS) which meets in conjunction with the American Association for the Advancement of Science (AAAS) Conference for scientists from throughout the nation.

ALAMO REGIONAL SCIENCE & ENGINEERING FAIR (ARSEF)

ARSEF is held at St. Mary's University. Students compete by presenting their science research with a vertical display. Interviews are conducted by Fair and Special Award judges from professional organizations. Students compete for scholarships, fair awards, special awards, and the opportunity to advance to the ExxonMobil Texas Science and Engineering Fair in San Antonio, I-SWEEEP in Houston, Texas, and the Intel International Science and Engineering Fair (Intel ISEF) for high school students. Middle school students can also apply for the Discovery Education 3M Young Scientist Challenge. A.R.A.S.E. is an affiliate of the Society for Science and the Public (SSP), Washington, DC, sponsor of the Intel ISEF and Intel Science Talent Search (Intel STS) and publisher of *Science News*.

www.arase.org

Building a Scholarship Program

Several universities and colleges have partnered with A.R.A.S.E. in awarding renewable book or academic scholarships at the Alamo Regional Academy of Science & Engineering Fair for approximately \$7 million in scholarships. Students must meet the admittance criteria for each of the institutions. The non-cumulative scholarships are renewable based on the institutions' criteria. The following universities have awarded scholarships:

PARTICIPATING INSTITUTIONS

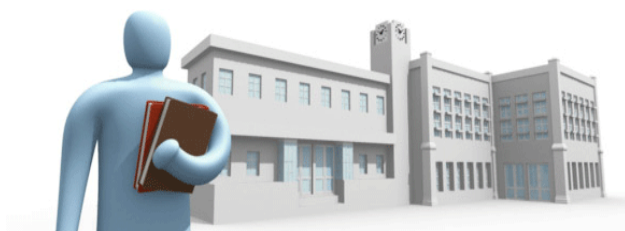
- Alamo Community Colleges
- Our Lady of the Lake University
- Schreiner University
- St. Mary's University
- Texas A&M University-College Station
- Texas Tech University
- The University of Incarnate Word
- Trinity University
- University of Texas at San Antonio-College of Science & College of Engineering

The University of the Incarnate Word (UIW) awards all participants (gr. 6-12) a \$2,000 renewable scholarship. The UIW scholarships are also presented to 5th grade students who are invited to present their science research project at the fair as part of the A.R.A.S.E. Out-Reach Program.

AN INVITATION

Colleges and Universities are invited to not only to display and issue promotional materials, but also to have a representative present the scholarships at the Awards Ceremony.

To partner in ARASE's Scholarship Program, contact Rose A. Perez at 210.494.6227 / jeperez@swbell.net



Who Benefits?

Scholarship Opportunities

The community as a whole benefits by adding talented graduates to the our city's workforce. Educated young individuals can contribute to the welfare of the community in the areas of science, math, medicine, and engineering. Institutions of higher learning may recruit potentially bright students from the regional science and engineering fair.

STUDENT BENEFITS

Scholarships provide critical support to outstanding science fair students who have demonstrated academic excellence and professional potential. A scholarship can make the difference between a student choosing to pursue a college education for a career or never enrolling. Scholarship support will enable students of every background and ambition to reach their goals. Individuals, private organizations, corporations, colleges and universities may award scholarships according to their own criteria.

HOW YOU CAN HELP

There are different levels of for awarding a scholarship at our fair. Scholarships maybe awarded:

- In certain categories
- To one of three fairs or all three fairs
- To the 15 Grand Prize winners in the Senior Division
- To the 1st and 2nd Grand Prize Senior Division winners of one of the three fairs or all three fairs
- To the 1st Place winner of a category/categories
- To Individual and Team Projects or to an Individual or Team Project
- To a project that demonstrates a particular quality of study



We All Benefit!

STUDENTS, INSTITUTIONS OF HIGH LEARNING, & THE COMMUNITY

Building a Future Scholarship Partnership

A scholarship can make a difference and shape the future for a deserving student. Your scholarship will inspire bright young students to achieve academic excellence and alleviate a financial need. Set your selection criteria and monetary award. Make a difference in shaping a future.

College / University

Department

Contact Person

Address

City

State

Zip

()

Phone

E-mail #1

- ☐ Our institution would be interested in participating in A.R.A.S.E.'s Scholarship Program.

☐ Please contact us to discuss ways we can offer one or more scholarships to the Program.



For Additional Information, Please Contact:

The Scholarship Development Office

210.736.2716

or



A.R.A.S.E. Directors:

Mr. John / Rose Perez
102 Windsor Drive
San Antonio, Texas 78228

www.arase.org

Building on Investment Sponsorship Application

Your tax-deductible donation will provide the Alamo Regional Academy of Science & Engineering (ARASE) the support to continue making advance academic opportunities for students and to encourage education through scientific research. A.R.A.S.E. is a 501(c) (3) designation.

Sponsoring Individual / Company / Organization

Contact Name

Address

City State Zip

Phone

E-mail #1

— Gifts / Endowments —

Various sponsorship levels provide opportunities for individuals, organizations, or companies to increase their visibility, make a difference in the future of our youth, and contribute to the quality of events.

Unrestricted Gifts provide income that A.R.A.S.E. can use toward areas of greatest need or opportunity.

Restricted Gifts support a specific A.R.A.S.E. need.

Endowed Gifts are held in perpetuity. A named endowment created through the establishment of a permanent fund is professionally invested and managed. A.R.A.S.E. invests the initial gift and uses only a portion of the average annual investment return. The remaining income is added to the principal. Benefactors who make an endowment gift may be confident that it will continue to support its intended purpose in the future.



To learn more, about establishing an endowment please contact A.R.A.S.E. by calling 210.494.6227.

Please make checks, corporate matches, or other Gifts payable to: **A.R.A.S.E.**

P.O. Box 701175
San Antonio, Texas 78270-1175

www.arase.org

OFFICIAL SPONSORSHIPS

- ☐ Albert Einstein Level (\$30,000)
- ☐ Linus Pauling Level (\$20,000)
- ☐ Jonas Salk Level (\$15,000)
- ☐ Marie Curie Level (\$10,000)
- ☐ Christian Doppler Level (\$5,000)
- ☐ Robert Hooke (\$1,000)
- ☐ Friends Level (\$500) or less

CUSTOMIZED SPONSORSHIPS

- ☐ Science Fair Seminar (\$2,000)
- ☐ Junior Academy of Science (\$2,000)
- ☐ Science & Engineering Fair (\$23,000)
- ☐ Catering for Three Events (\$8,000)
- ☐ Printing (\$1,000)
- ☐ Table Rental for Fair (\$2,000)
- ☐ Facility Rental for Fair (\$12,000)
- ☐ Student Awards (\$1,200)
- ☐ Project Shipping to Intel ISEF (\$800)
- ☐ A.R.A.S.E. Affiliation Fees (\$1,500)
- ☐ A.R.A.S.E. T-Shirts (\$1,700)
- ☐ Students Intel ISEF Registration (\$1,300)
- ☐ Students Intel ISEF Airfare (\$4,000)
- ☐ Students Intel ISEF Housing (\$4,000)
- ☐ Students Intel ISEF Per Diem (\$1,500)

Gift / Pledge Form

Your tax-deductible donation will provide the Alamo Regional Academy of Science and Engineering the support to continue making advance academic opportunities for students and to encourage education through scientific research.

Name	<input type="text"/>
Position	<input type="text"/>
Company/Org	<input type="text"/>
City, State, & Zip	<input type="text"/>
Phone	<input type="text"/>
E-mail	<input type="text"/>

Gift

I / We would like to support the Alamo Regional Science and Engineering Fair at the following sponsorship level:

- | | | | |
|---|-----------------|---|-----------------|
| <input type="checkbox"/> Albert Einstein Level | \$30,000 | <input type="checkbox"/> Marie Curie Level | \$10,000 |
| <input type="checkbox"/> Linus Pauling Level | \$20,000 | <input type="checkbox"/> Christian Doppler Level | \$5,000 |
| <input type="checkbox"/> Jonas Salk Level | \$15,000 | <input type="checkbox"/> Robert Hook Level | \$1,000 |
| <input type="checkbox"/> Friends Level \$500 or less | | | |

Pledge

I / We wish to pledge a total gift of \$ _____ payable in equal installments to ARASE for amount of \$ _____ beginning in _____ (month/year).

I / We intend to make ☐ monthly ☐ quarterly ☐ semi-annually ☐ annually payments.

Gift will be matched by _____ (company/family/foundation).

Please list the company / organization to be included in our science fair Awards Program:

Company / Organization

Signature

Date

Please make checks, corporate matches, or other gifts payable to: **ARASE**
P.O. Box 701175
San Antonio, Texas 78270-1175

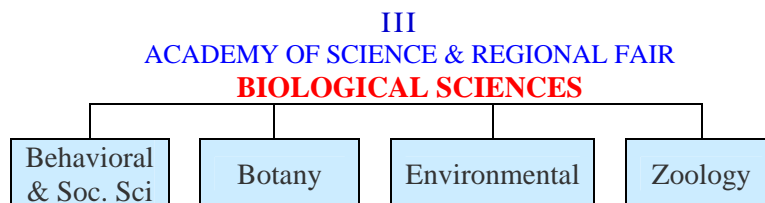
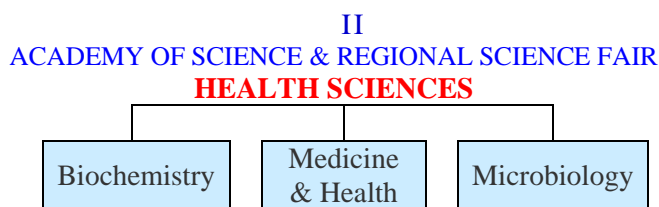
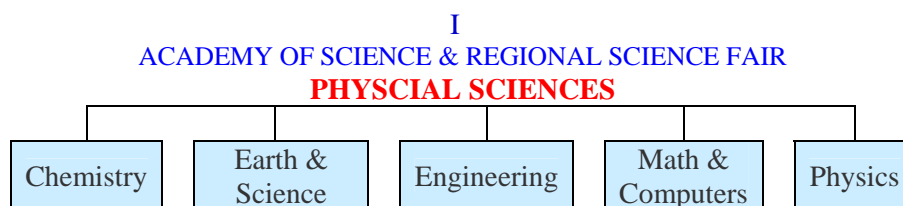
Summary of Finances

	Line Items	FY 08-09	FY 07-08	FY 06-07	FY 05-06	FY 04-05	FY 03-04
<i>Fees/Affiliations</i>	Liability Insurance	591.00	589.00	588.00	598.00	525.00	0.00
	Director/Officer Insurance	813.00	813.00	0.00	0.00	0.00	0.00
	CPA	595.00	495.00	445.00	400.00	375.00	380.00
	Intel ISEF/SSP	1500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
	Sam's Membership	70.00	70.00	70.00	70.00	0.00	0.00
		\$3,569.00	\$3,467.00	\$2,603.00	\$2,568.00	\$2,400.00	\$1,880.00
<i>Science Fair Seminar</i>	Table Rental	842.50	0.00	0.00	378.15	0.00	0.00
	Catering	1,397.75	1,738.60	1,535.34	1,703.12	1,603.50	876.15
	Housekeeping/Parking	468.39	926.25	744.25	0.00	186.93	0.00
		\$2,708.64	\$2,664.85	\$2,279.59	\$2,081.27	\$1,790.43	\$876.15
<i>Junior Academy of Science</i>	Facility Rental	562.40	720.00	445.00	400.00	0.00	0.00
	Catering	721.64	679.77	707.52	579.22	626.17	557.31
		\$1,284.04	\$1,399.77	\$1,152.52	\$979.22	\$626.17	\$557.31
<i>Science & Engineering Fair</i>	Facility Rental	12,147.00	10,565.25	9,536.00	7,300.00	10,745.69	5,415.50
	Catering	5,171.61	5,103.78	5,058.82	4,097.40	3,435.33	5,799.50
	Parking Fee	0.00	0.00	0.00	0.00	500.00	0.00
	Table Rental	2,277.00	2,234.29	2,234.29	2,226.70	0.00	2,970.80
	Awards	891.51	1,103.73	911.75	1,290.64	819.86	1,031.73
	T-Shirts	1,755.00	1,677.50	1,625.00	1,300.00	1,290.00	1,275.00
		\$22,242.12	\$20,684.55	\$19,365.86	\$16,214.74	\$16,790.88	\$16,492.53
<i>Intel ISEF Finalist Expenses</i>	Registration	1,300.00	1,300.00	1,300.00	1,120.00	1,280.00	1,200.00
	Air Fare	3,392.80	3,519.99	4,449.27	4,116.38	3,802.80	4,183.02
	Per Diem	1,560.00	1,620.00	2,160.00	1,950.00	1,920.00	1,550.00
	Hotel	4,664.80	5,635.00	3,761.06	4,789.75	4,118.94	4,006.60
	Project Shipment	429.46	1,349.96	690.88	598.62	734.62	804.22
		\$11,347.06	\$13,424.95	\$12,361.21	\$12,574.75	\$11,856.36	\$11,743.84
<i>Miscellaneous</i>	Supplies	1,420.35	3,304.24	1,598.40	1,845.43	2,298.46	2,419.58
	Intel Outreach	0.00	0.00	0.00	406.00	906.97	0.00
	SRC Reviews-Room	135.00	160.00	200.00	292.92	0.00	0.00
	Car Rental	0.00	0.00	502.64	362.36	418.56	0.00
	Local Hotel	89.00	0.00	0.00	0.00	109.55	0.00
	Postal Box Rental	70.00	68.00	72.00	68.00	68.00	68.00
	Postage	328.81	770.49	430.27	638.36	488.02	809.03
	Equipment	0.00	0.00	5,126.85	3,416.43	244.95	4,959.20
	Equipment Repair	0.00	75.69	0.00	0.00	0.00	0.00
	Proclamations,	0.00	0.00	0.00	0.00	0.00	30.00
	Sci. Service Reimburse	0.00	0.00	0.00	0.00	478.75	0.00
	Special Events	0.00	144.56	900.00	0.00	0.00	0.00
	Printing	1,244.01	1,231.52	1,644.12	1,581.27	1,557.95	560.00
		\$3,287.17	\$5,754.50	\$10,474.28	\$8,610.77	\$6,571.21	\$8,845.81
Totals		\$44,438.03	\$47,395.62	\$48,236.46	\$43,028.75	\$40,035.05	\$40,395.64
		(FY-08-09)	(FY 07-08)	(FY 06-07)	(FY 05-06)	(FY 04-05)	(FY 03-04)

Competition Categories

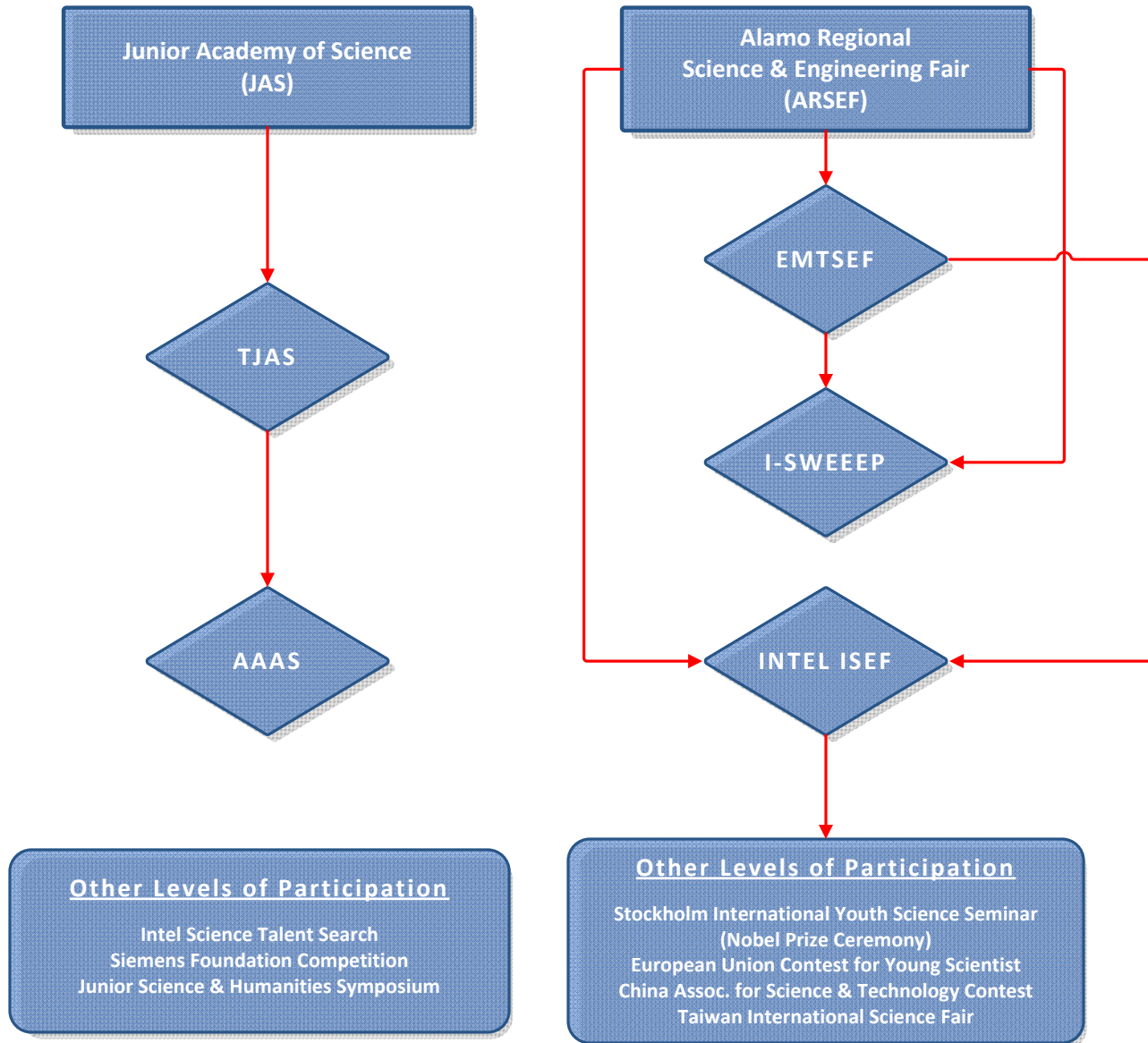
Both the Junior Academy of Science and the Alamo Regional Science & Engineering Fair consist of Junior (gr. 6-8) and a Senior (gr. 9-12) divisions. Each division is subdivided into categories within areas of study. Students may enter an Individual Project or a Team Project (two members).

AREAS OF STUDY



Flowchart of Science Competitions

{ STATE, NATIONAL, & INTERNATIONAL }



KEY:

TJAS.....Texas Junior Academy of Science

AAAS.....American Association for the Advancement of Science

EMTSEF.....ExxonMobil Texas Science & Engineering Fair

I-SWEEEP....International Sustainable World in Energy, Environment & Engineering Program

INTEL ISEF...Intel International Science & Engineering Fair

Higher Levels of Competition

Students participating in the Junior Academy of Science and in the Alamo Regional Science and Engineering Fair are selected either by A.R.A.S.E.'s judges to advance to higher levels of competitions. They may also submit their abstracts and apply to other competitive science events.

EXXONMOBIL TEXAS SCIENCE & ENGINEERING FAIR (EMTSEF)

Grand Prizes and 1st through 3rd place middle and high school winners from each category of the regional science fair who receive an invitation can advance to the EMTSEF held in San Antonio in April at the Henry B. Gonzalez Convention Center. A.R.A.S.E. State Qualifiers compete with over 1000+ students from throughout the state for scholarships, awards, and the opportunity to advance to the Intel International Science and Engineering Fair (Intel ISEF).

www.emtsef.org

INTEL INTERNATIONAL SCIENCE & ENGINEERING FAIR (Intel ISEF)

First and second Grand Prize Individual high school winners and the first Grand Prize Team from each of the three regional Fair Divisions advance to the prestigious Intel ISEF in May with all expenses paid by A.R.A.S.E. Intel ISEF is the world's largest international pre-college science competition where more than 1,500 high school students from over fifty countries present their science research to compete for scholarships, monetary awards, and invitations to other international science fairs and summer programs. Students have the opportunity to meet with Nobel Laureates and Intel Fellows. Intel ISEF is sponsored by the Society for Science and the Public (SSP) and the Intel Corporation.

www.societyforscience.org

INTERNATIONAL SUSTAINABLE WORLD IN ENERGY, ENVIRONMENT, & ENGINEERING PROGRAM (I-SWEEEP)

I-SWEEEP an international science fair held in Houston, Texas in April. Its focus is on energy, engineering, and environmental projects. It is the largest science fair of its kind in the world with over forty states participating and at least fifty two countries. Middle and high school students are selected at their regional science fair by I-SWEEEP judges. Additional students are selected by an I-SWEEEP committee by reviewing student abstracts. I-SWEEEP is very selective and limits the total participation. The majority of A.R.A.S.E.'s students have earned gold, silver, bronze metals and honorable mention awards. Students receiving metals also receive monetary awards and scholarships to various universities.

www.isweeep.org

DISCOVERY EDUCATION/3M YOUNG SCIENTIST CHALLENGE (DE/3M YSC)

The Discovery Education/3M Young Scientist Challenge is a middle school science competition created by Discovery Communications, Inc. The DE/3M YSC is designed to encourage the exploration of science among America's youth and to promote the importance of science communication. The top 10% from the Alamo Regional Science & Engineering Fair are selected to apply. The DE/3M YSC program

selects 51 semifinalists (one from each state and the District of Columbia) based on a short video explaining a given science concept. Semifinalists receive \$250 along with a plaque for the students and teachers. Ten finalists nationwide are then selected to receive an all-expense paid trip to New York, NY in October where they compete in science challenges for a \$50,000 savings bond, trips, and other prizes. All finalists receive a DE/3M YSC metal and \$1,000.

www.youngscientistchallenge.com

INTEL SCIENCE TALENT SEARCH (STS)

The Society for Science and the Public (SSP) also sponsors the Intel STS, a prestigious science research competition for high school seniors. The STS was in partnership with Westinghouse from 1942 to 1998. STS partnered with Intel in 1998. STS is a competition for the best and brightest young scientists who have conducted a scientific research. Forty finalists are selected from thousands of seniors that apply to attend the week long Intel Science Talent Institute in Washington D. C. in March. The students present their project to the scientific community at the National Academy of Sciences, meet with distinguished government leaders at the White House and Capitol and participate in an intense judging process. Awards are presented to the top students and their schools totaling over \$1 million with awards ranging from \$5,000 scholarship grants and laptop computers for all the finalists to the grand prize of a \$100,000 college scholarship. Many of A.R.A.S.E. regional fair high school seniors have applied and participated in the Intel STS winning recognition and awards.

www.societyforscience.org/sts/index.asp

SIEMENS FOUNDATION COMPETITION

The Siemens Foundation provides more than \$7 million annually in support of educational initiatives in the areas of science, technology, engineering and math in the United States. Its mission is based on the culture of innovation, research and educational support that is the hallmark of Siemens' U.S. companies and its parent company, Siemens AG. One of its prestigious competitions is the Siemens Westinghouse Competition (established in 1998) for high school seniors which is administer by the College Board. Students advance to the national competition from one of six regional competitions which include the California Institute of Technology, Carnegie Mellon University, Georgia Institute of Technology, Massachusetts Institute of Technology, University of Notre Dame, and the University of Texas. The Research Report, the references cited in the Research Report, poster display, oral presentation, and private question-and-answer session are evaluated by the judges both at the regional and national levels. Students are selected by each regional Siemens committee to participate at in the regional level of competition. Finalists from the regional competition advance to the national level of competition.

www.siemens-foundation.org/en/competition.htm

TEXAS JUNIOR SCIENCE & HUMANITIES SYMPOSIUM (TJSHS)

JSHS is a program sponsored by the United States Department of the Army and the Departments of the Navy and Air Force throughout the nation with the cooperation of universities of various states. JSHS provides opportunities of encouragement for young scientists and engineers to follow studies in the scientific fields. The Texas JSHS is organized by the Education Outreach and Women's Program of Texas A&M University, College Station. Students are selected to participate based on their selected

abstracts and application. Alamo regional students have received top recognition at the Texas JSHS which takes in January and have advanced to the National Junior Science and Humanities Symposium.

<http://outreach.science.tamu.edu/tjas.asp>

TEXAS JUNIOR ACADEMY OF SCIENCE (TJAS)

The Texas Junior Academy of Science is an annual meeting and science competition for high school students (grades 9-12) from throughout Texas. TJAS takes place in April at Texas A&M University, College Station. It is sponsored by the Education Outreach and Women's Program of Texas A&M University. The student's oral and written presentations of their science research project are judged by professionals in the scientific field. Top students from this competition can attend the American Junior Academy of Science (AJAS) the following year by invitation only. AJAS is the nation's only honor research society for high school students.

<http://outreach.science.tamu.edu>



A.R.A.S.E. SEMINAR



JUDGES' BRIEFING

Testimonials

“Science Fair played a key role in fostering the attitudes toward science and the focus to formulate a research project and carry it to completion... the metals were only a small part of the joy of science fair”

Dr. Bernard B. Beard
ARES Corporation

“As an undergrad majoring in neuroscience I was years ahead of my classmates because of my participation in science fair... my enthusiasm for science was fueled by my early science fair experiences”

Dr. Gul Dolen
Stanford University

“My participation in the science fair constituted a key element of my early education in science and contributed to my success as a scientist.”

Dr. Charles V. Mobbs
Mt. Sinai School of Medicine

“Critical thinking, scientific method, and work skills... life-changing opportunities and experiences I’ve learned will help me for years to come.”

Jordan Zesch
Keystone School

“I have learned to be thorough in my thinking and in my writing... ARASE has given me that opportunity”

Chance Ruder
Keystone School
Wildlife Ambassador

“I appreciate that science fair gave me the opportunity to develop my ideas... and go from an idea to a winning project and a winning presentation”

Christopher Mittal
Texas A&M University, Kingville

“The skills and experience gained in doing a science project better prepared me not only for college, but showcasing myself to employers and interviewers for organizations that I have joined”

Jennifer Rumpf
Texas A&M University, College Station

“My love for science began with the opportunity to present my findings to adults and other peers in a professional setting”

Megan Abbott
Texas Military Institute

“I am glad that the Alamo Regional Science Fair has given me the opportunity to participate in multiple international fairs... all of these things would not have been possible if it were not for science fair”

Travis Howk
Keystone School